JANUARY 21, 1933

Railway Age

Founded In 1856

United Appeal in Behalf of Railroads Receives Nation-Wide Acclaim

THE purpose of the united appeal of the railroads, the manufacturers, and the RAILWAY AGE, in the December 3, 1932, issue of this publication, was to attract the attention of legislators, regulatory authorities and the public to the railway situation, its causes and its cures, by a dramatic presentation of the facts. Did it accomplish its purpose?

An article in this issue entitled, "The Story of the December 3 Issue" relates the "inside story", and includes quotations from enthusiastic letters received by the editor which should be most interesting and gratifying to the railroads, to the railway supply and manufacturing companies, and to their employees.

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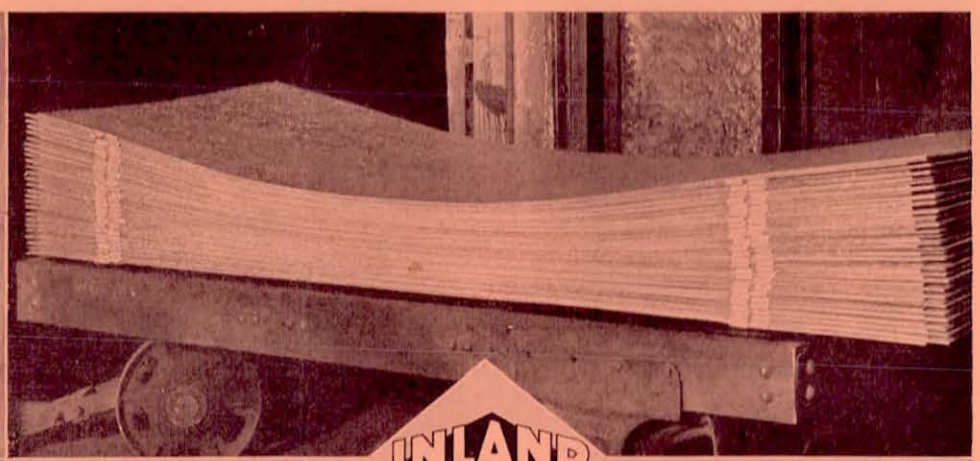

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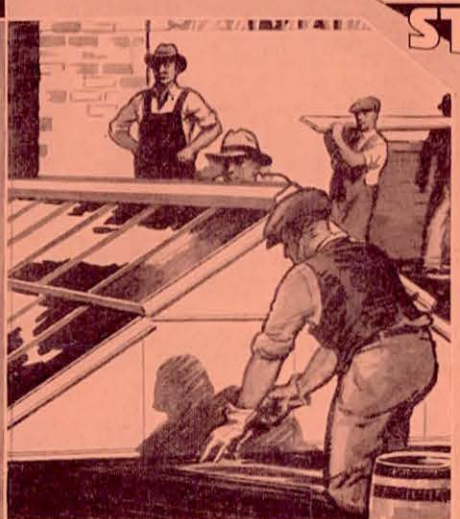

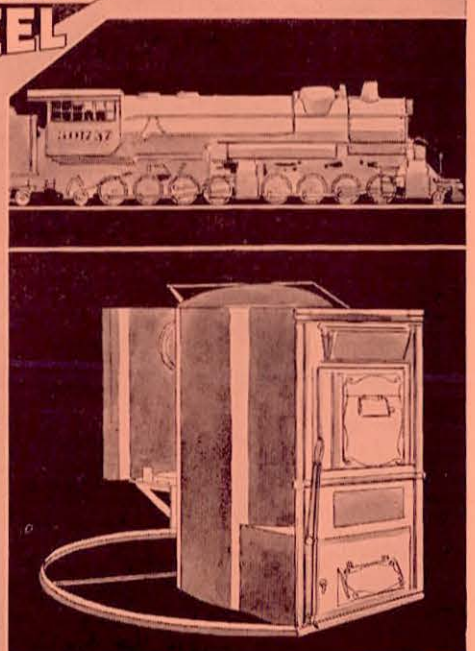

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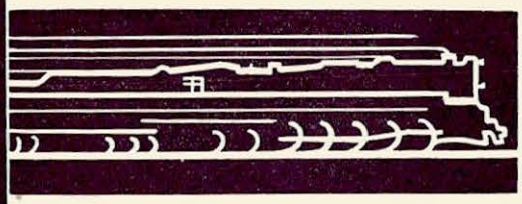

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Railway Age

With which are incorporated the Railway Review, the Railroad Gazette and the Railway Age-Gazette. Name Registered U. S. Patent Office.

Vol. 94 January 21, 1933 No. 3

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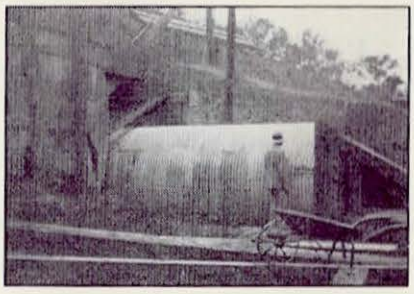
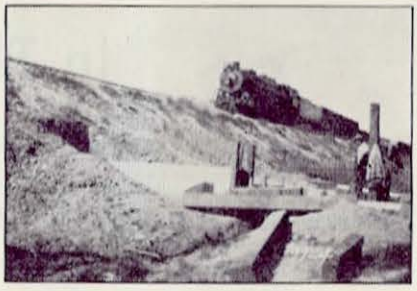
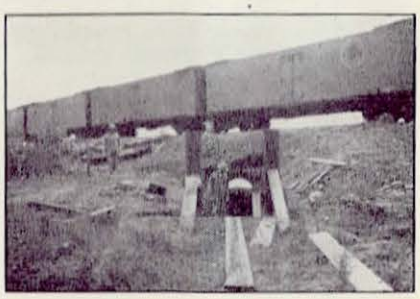
Typical CULVERT on Class I Railroads



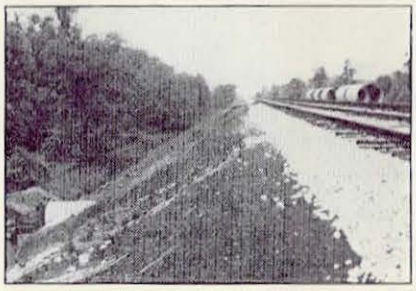
84 in. Armco Culvert, 84 ft. long



60 in. Armco Culvert, 70 ft. long



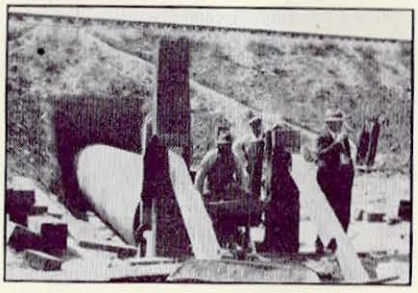
48 in. Armco Culvert, 160 ft. long



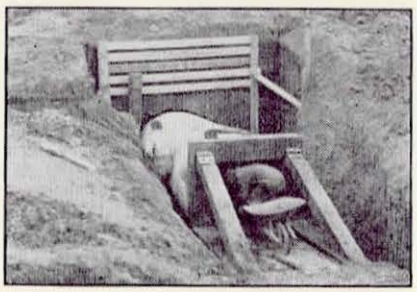
84 in. Armco Culvert, 100 ft. long

48 in. Armco Culvert, 196 ft. long

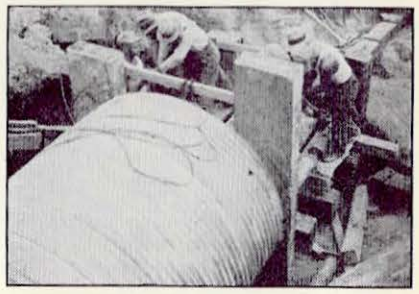
66 in. Armco Culvert, 220 ft. long, under 12 tracks, 14 ft. below lake level



60 In. Armco Culvert, 70 ft. long



60 in. Armco Culvert, 80 ft. long



Installing 84 in. Armco Culvert, 60 ft. long, by Armco Methods

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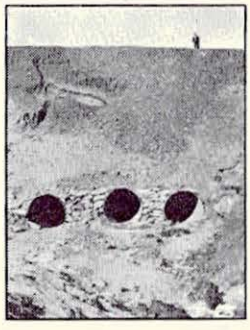

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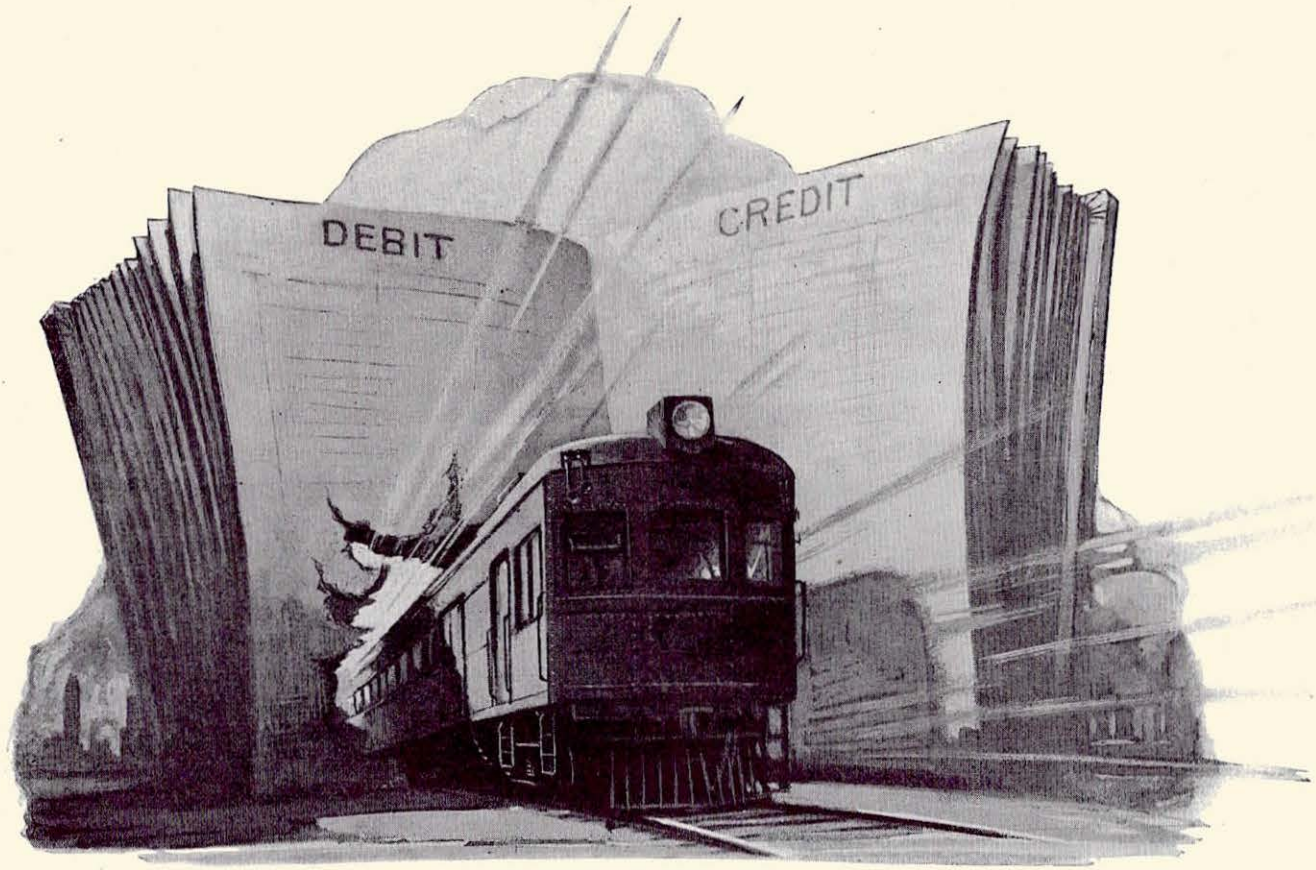

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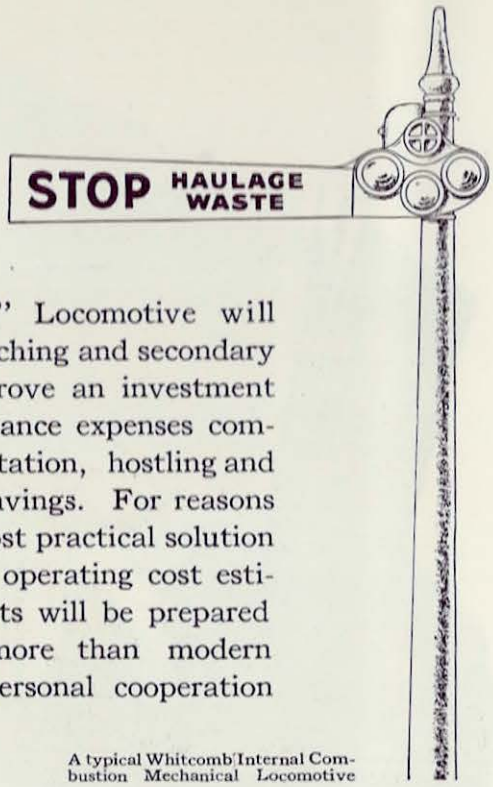

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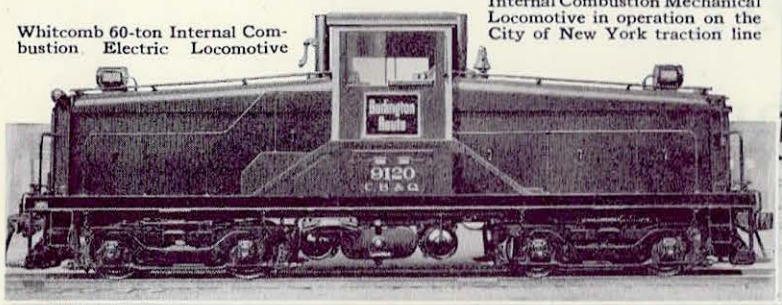
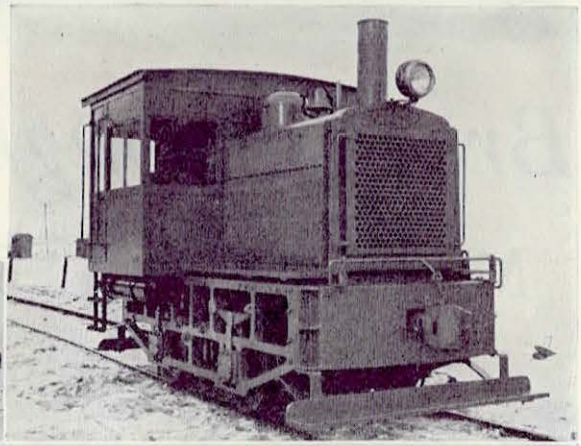
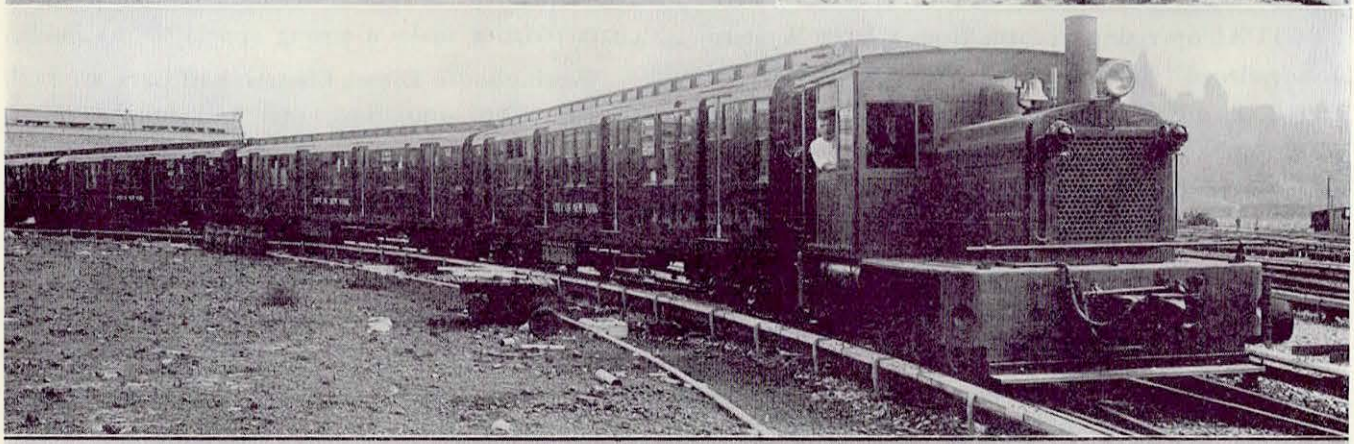


Lower picture shows Whitcomb, Internal Combustion Mechanical Locomotive in operation on the City of New York traction line





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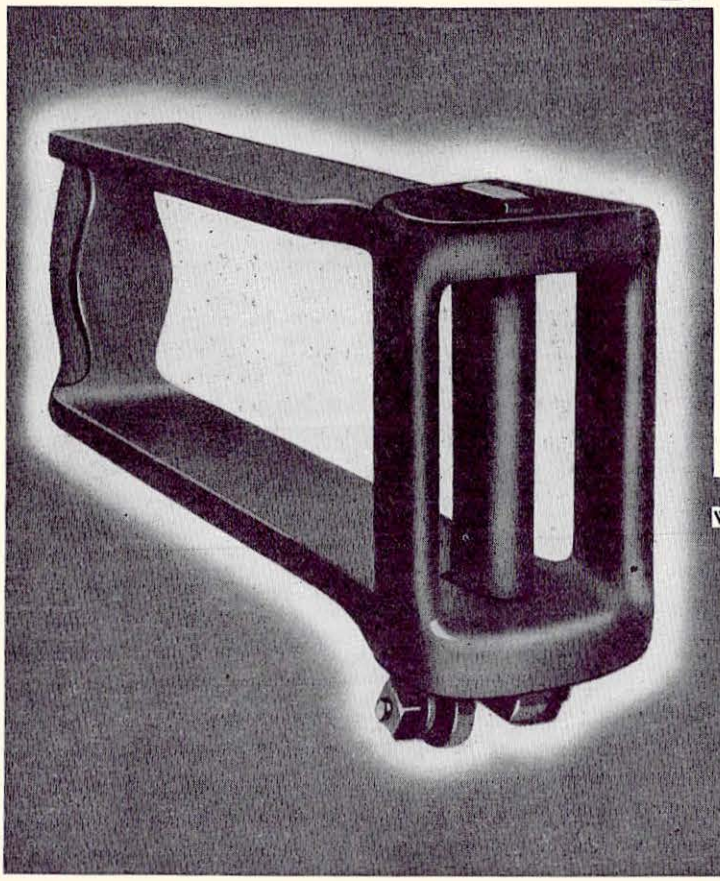

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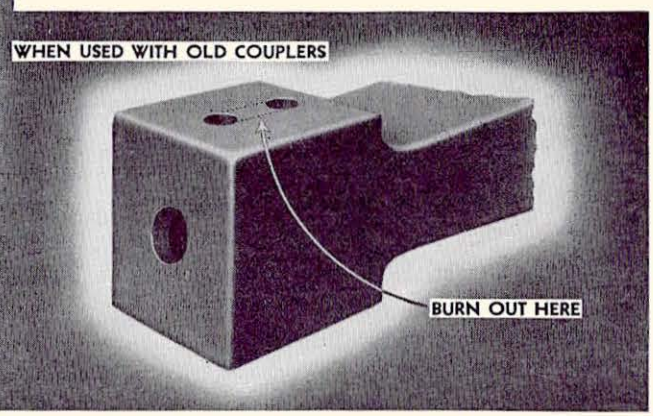

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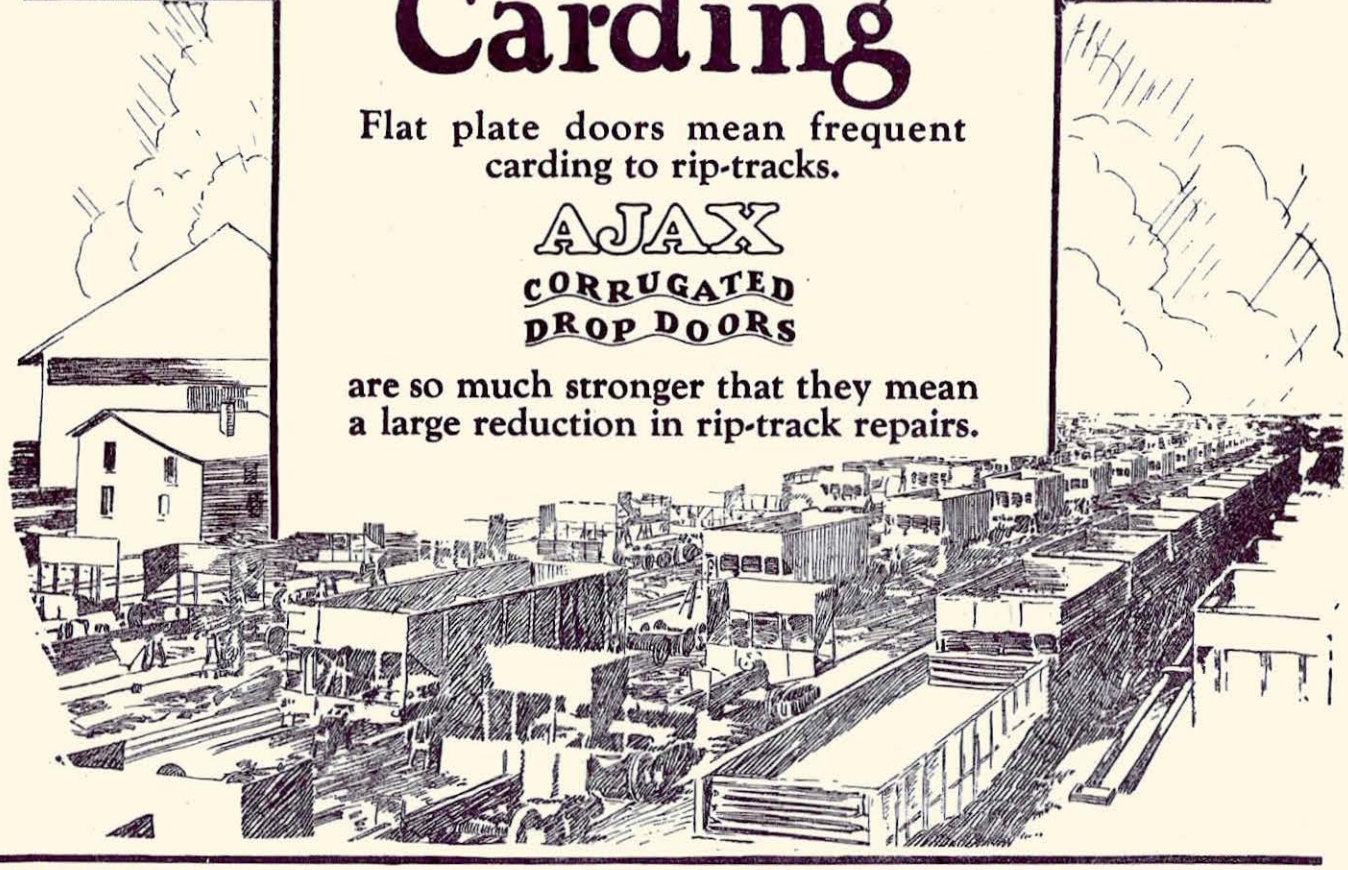

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Railroads would save millions of dollars annually if all the 1,200,000 cars were roofed with the

UNIVERSAL DRY LADING ROOF

Hutchins Car Roofing Company

RAILWAY AGE

Repudiation of Debts—A Railway Example

In periods of depression there always appear and reappear certain supposedly easy methods of relieving distress and reviving business. One of these is the reduction of debts by government action. In periods of prosperity governments, corporations and individuals increase their debts. The corporations and individuals that then increase their debts do so because they believe that by borrowing and using other people's money they can increase their own profits and incomes. In the periods of depression which follow there always is an outcry that debts have become too large and must be scaled down to revive business. One way usually advocated, and being advocated now, is to reduce the number of dollars of debts without changing the value of the dollar. Another way is to depreciate the dollar itself by, for example, reducing the amount of gold in it, or by abandoning the gold standard.

Those who are old enough to have heard and read the discussion of the money question in the 'Nineties will recall that the adoption of "free silver," or even the issuance of a vast amount of paper money based on neither gold nor silver, was advocated principally upon the ground that debts had been relatively increased by the increase in the value of money, and must be reduced by reducing the value of the money in which they were payable. It is also a matter of history that, although general reduction of debts by depreciation of the currency was rejected at the election in 1896, the nation immediately afterward entered a period of unprecedented prosperity.

Railway Investment and Indebtedness

The question of the desirability of scaling down indebtedness as a means of ending the present depression is of especial concern to the railroad industry. The railroads have a funded debt of about 12 billion dollars—the largest, probably, of any industry in the country. If, therefore, any industries would be benefited by the scaling down of debts the railroad industry is one of them. There is prevalent an assumption that not only is the indebtedness of the railroads excessive, but that it was largely increased during the recent years of prosperity, that this is the principal cause of their present financial condition; and that the problem they present cannot be solved without wholesale reduction of their indebtedness. Assumptions and facts often differ quite widely, however. The facts about the railroad industry, which is in the greatest financial difficulties, afford perhaps the best evidence available that the importance of the general increase of indebtedness as a cause of present economic conditions, and of reduction of debts as a means of improving these conditions, is being greatly exaggerated. What changes in railroad investment and indebtedness actually did occur in the 20 years and in the 10 years ending with 1930? Statistics presenting these and some other pertinent facts are given in an accompanying table.

Increases in Railway Investment and Indebtedness, 1910-1930

	Investment in Road and Equipment	Net Funded Indebtedness	Ratio (Per Cent) Indebtedness to Investment
1910	$14,558,000,000	$8,457,000,000	58
1920	19,849,000,000	10,287,400,000	52
1930	26,051,000,000	11,880,000,000	45½
Per Cent Inc. 1930 over 1920	31	15	
Per Cent Inc. 1930 over 1910	80	40	

In the 20 years ending with 1930 investment in road and equipment increased $11,493,000,000, while outstanding indebtedness increased only $3,423,000,000, or less than one-third as much as investment. In the 10 years ending with 1930 investment increased $6,202,000,000, while outstanding railway indebtedness increased only $1,592,600,000, or about one-fourth as much as investment. In 1910 the ratio of indebtedness to investment was 58 per cent; in 1920, 52 per cent; in 1930, only 45.5 per cent. With the ratio of indebtedness to investment smaller in 1930 than ever before, it is plain that other causes have contributed much more than increase of indebtedness to producing the railway financial situation which now exists.

Railway Interest and Taxes

How much of an increase in the interest that the railroads had to pay was caused by the increase in their

indebtedness? How much of a burden was this increase in interest as compared with other burdens imposed upon them—for example, the burden of increased taxation? Comparative figures regarding railway interest and railway taxes are given in another table herewith.

Annual interest on funded debt increased 21 per cent in the 10 years ending with 1930, and 54 per cent in the 20 years ending with 1930. Railway taxes increased 22 per cent in the 10 years ending with 1930, and 261 per cent in the 20 years ending with 1930. The increase in annual interest in the 20 years ending with 1930 was about $199,000,000, while the increase in annual taxes was almost $256,000,000. The increase in taxes within 20 years, was *absolutely* $57,000,000 annually greater than the increase in interest, and *relatively* almost five times as great. As a matter of fact, although the railways generally are now threatened with bankruptcy owing to inability to earn their fixed charges, the increase in their interest during a long period of years before the depression was relatively much less than the increase in their taxes, or in their wages or other items of their operating expenses. And this was true in spite of the fact that their credit so declined between 1910 and 1930 that, while their indebtedness increased only 40 per cent, the amount of interest they had to pay on it increased 54 per cent.

Interest on Railway Indebtedness and Railway Taxes

	Interest	Taxes
1910	$370,092,000	$98,034,593
1920	471,000,000	289,272,083
1930	569,333,000	353,881,476
Per Cent Inc. 1930 over 1920	21	22
Per Cent Inc. 1930 over 1910	54	261

Why Fixed Charges Are Not Earned

Why, then, are the railways now unable to earn their fixed charges? The answers are plain. First, they have suffered a loss since 1929 of almost 50 per cent of their gross earnings, which has been mainly due to the depression, but largely due to diversion of their traffic to subsidized and unregulated competing carriers. Secondly, the average hourly wage of their employees has been reduced only 10 per cent. It seems reasonable to assume that existing conditions are temporary—that general business and traffic will revive; that unfair competition will be reduced; that railway wages will be made comparable with those paid in other industries. Unless business rapidly improves, numerous railways probably will become bankrupt, and in passing through receiverships will have their indebtedness and the interest upon it reduced. But would such temporary conditions as now exist warrant the scaling down of railway indebtedness, excepting in cases in which this may be unavoidable?

The railways will need to borrow money by selling bonds in future both to refund outstanding indebtedness and to raise new capital. Would life insurance companies, other fiduciary institutions and individuals buy their bonds in future, as they have in the past, if some method were now adopted, with governmental sanction, for permanently scaling down railway indebtedness in general? The market for railway bonds would be largely destroyed by any such procedure. Railways which passed into receivership would find it impossible to recover their solvency because of inability to refund their maturing obligations. Borrowing as a means of raising new railway capital would be virtually destroyed. The relationship between creditors and debtors is a dangerous thing to tamper with. Those who loan their capital by buying bonds instead of stocks do so because they prefer security and a low rate of interest to the risks of buying speculative securities. Repudiation of debts destroys the security for loans. Reduce security and you immediately increase the difficulty of getting loans and increase the interest rates that must be paid upon them. Increase interest rates and you increase the very fixed charges the reduction of which is the objective of the reduction of debts.

Who Would Lose by Repudiation?

This reasoning is, of course, applicable to the entire problem presented by the huge accumulated indebtedness of governments, business concerns, farmers and other individuals. Existing debts were voluntarily incurred by those who owe them. Nobody proposed a general scaling down of debts when borrowers actually or apparently were making large profits by using the money they had borrowed. The creditor becomes a public enemy who should be severely dealt with by government only after debtors have spent or lost what they borrowed in the expectation of making large profits by its use. Practically all the creditors as well as the debtors in this country happen to be American citizens, and the scaling down of debts would not increase the total amount of capital available, but would merely transfer capital from those who loaned it and still own it to those who borrowed it. The largest holders of railway bonds are life insurance companies and savings banks. Indirectly, these bonds belong to the millions of men and women who have invested their savings in life insurance policies and deposited them in savings banks. Therefore, the effect of unnecessarily scaling down railway indebtedness would be to transfer a large amount of capital from the millions of owners of life insurance policies and depositors in savings banks to railway stockholders or whoever else would benefit by the transfer.

Remedies for Existing Conditions

The remedy for existing conditions is not to be found in a general repudiation of debts, whether by inflation of the currency or otherwise, but in methods which will increase the volume of production and commerce, the gross and net earnings of business, employment and incomes. The improvement in business which is now

occurring could be greatly accelerated by balancing of government budgets by reductions of expenditures, and by a reasonable settlement of the international debt question. It would be accelerated by reductions of railway wages and by legislation regarding competing means of transportation, which would enable the railways to increase employment and purchases.

What the nation needs is policies which will enable a large majority of debtors to meet their obligations, not to repudiate them. Restore to the railways one-half as much freight business as they have lost since 1929, give them a reasonable reduction of wages, and practically all of them will speedily become able to pay all of their fixed charges and renew the principal of their maturing obligations. An improvement in general business conditions sufficient to restore to the railways one-half of the traffic they have lost since 1929 would not only solve their debt problem, but in large measure solve the debt problem of the entire nation.

General repudiation of debts by the adoption of free silver in 1896 would have indefinitely prolonged the depression of that period. Prosperity can be restored now only as it was restored then—not by adopting any single wholesale and apparently easy method for restoring it, but by squarely facing each and every economic problem presented by existing conditions, and dealing with it separately, intelligently, honestly and courageously.

Barnum Had Nothing on the Technocrats

"A crisis in the history of American civilization is at hand." These are the opening words of an article on Technocracy in a current magazine. This is only a fair sample of statements which have been emanating for several months—and have been published widespread—from a group domiciled in the engineering department of one of America's greatest universities.

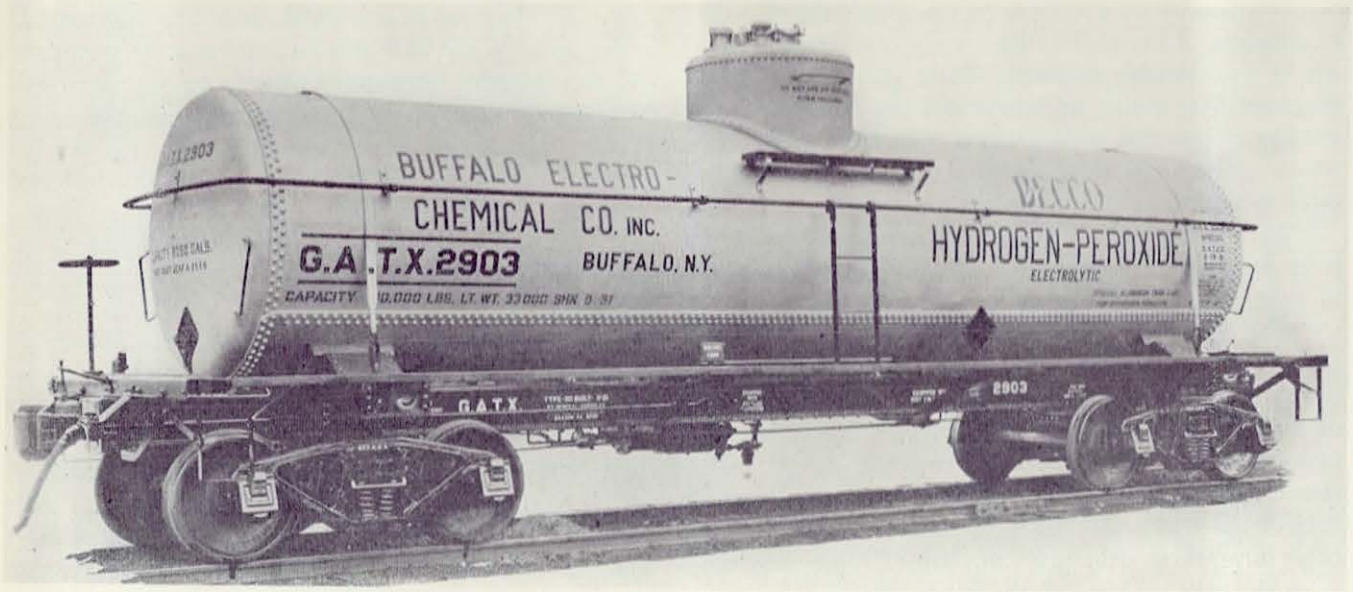
Are such statements justified? If not, they should be matters of concern to both engineers and universities, for their reputations as sources of information and leadership are affected. We do not intend here to discuss Technocracy in detail, but desire rather to point out certain facts concerning the work of this group and its background that will enable our readers better to judge the value of statements now appearing widely in newspapers and in all sorts of publications.

Many of the facts so dramatically stated in such articles are well and widely known. Indeed, they have been the cause of real concern in many quarters for a long time, and much thought and consideration are being given to the effects of this industrial era, and more particularly to its later manifestations in the mass production period, which covers the past quarter century. The problem is one which should be approached in the spirit of scientific research, but it is so extensive and has so many ramifications that after the facts are clearly ascertained, they must be analyzed and conclusions drawn, not by a single group, but by competent representatives of all of the important elements involved. A great university surely offers rare opportunities for the consideration of such facts and their integration. Has this been done in the case of Technocracy? It has not!

The Technocracy group is housed in the industrial engineering department of Columbia University and is being aided by the Architects' Emergency Committee. Any effort on the part of an institution or organization to study the effects of great economic forces is laudable, and surely nothing could be more important at this time than to attempt scientifically to stabilize and balance the economic forces on the American Continent. Apparently this is what the university authorities had in mind when they made it possible for the Technocracy group to function under their auspices. Unfortunately, the university seems not to have had much control over the group or of the publicity emanating from it.

Any one who has tried to dig up reliable statistics about the growth of transportation or industry during the past century or two, must realize the great difficulties of securing comparable data. Certain statements which have been published by the Technocrats are obviously incorrect and indicate the need of a thorough checking of such data as have thus far been assembled. There seems to be little question, however, but that data which have thus far been derived do indicate certain tendencies which pertain to the growth of all industries, and it is quite possible that certain scientific underlying principles may be discovered which will be helpful in future planning. Great numbers of charts have been drawn on the basis of data thus far derived, which give some promise in this respect. Even if these data had been fully checked, however, it is extremely doubtful whether any of the findings thus far made—and admittedly they are incomplete—can justify or begin to justify the statements that are being so glibly made and which are preceded by dramatic recitals of specific cases of an extreme nature.

Undoubtedly the university can do a great service if, under its auspices, the Technocrats can gather authentic information about the growth of industry and if this information can be scientifically analyzed, and then, with the aid of the leaders in the various groups of experts, can be properly integrated so that constructive suggestions may be made to insure the proper balancing and stabilizing of our economic and social forces. It is unfortunate, however, that on the basis of a partial study of the problem, prophecies are being published broadcast, indicating that our whole economic system and social structure must be radically changed if we are to avoid disaster. The facts in the case do not justify any such conclusions.



The First Tank Car Built of Heat-Treated Aluminum Alloys

Development of Special Rail Equipment*

Present tendency is toward the continued development of special equipment owned by shippers—Rail carriers to supply general-purpose cars for bulk movement

By R. C. Pierce
Vice-President, General American Tank Car Corporation, Chicago

THERE are today on American railroads slightly less than 3,000,000 freight cars. The car equipment owned by railway companies and regularly furnished to shippers must necessarily be general-purpose equipment which can be readily utilized by the majority of shippers. With the expansion of industry, there has grown up a demand for cars of special nature which cannot be supplied by the carriers. This tendency is shown by the fact that although there are today slightly less cars in the United States than there were in 1921, special tank cars, including acid cars, have during this period increased over seven times in number. The sole measure of the desirability of special versus regular equipment is measured by the economics of the transportation problem involved. No special problem is involved in the shipment of several thousand bales of goods of average size and weight. Yet it may be a most difficult problem to ship bromine, one of the latest problems in bulk chemical handling.

The transportation problem made necessary by the operation and use of helium in the Navy airship program could not possibly be solved by any standard rail equipment. The commercialization of carbon dioxide presented new and unusual transportation problems. The growth of cities, together with more stringent health regulations, necessitated increasing the area of milk production, making the bulk shipment of milk economically desirable. Acids, such as hydrochloric, are seldom produced where consumed, and transportation in bulk is necessary. The foregoing are but a few of the problems that have arisen in recent years the solution of which has made possible a lower cost of transportation, together with supplying a more attractive transportation means over the rails than is otherwise available.

Helium Car

It is not commonly known that there were so-called high-pressure tank cars for the transportation of gases in use as far back as 1914. These cars were standard box cars in which were blocked a considerable number of standard 200-cu-ft. high-pressure gas cylinders, each cylinder provided with a valve and connected with manifolds, making it possible to charge or discharge all or part of the tanks at a time. These cars were in more or less successful use for a number of years. When helium was produced in quantities, the problem of transportation became acute. Compressed gases, which may be manufactured at many points, are seldom transported great distances on account of transportation costs. Experience has shown that it is cheaper to build many producing plants which because of their small size may be

*Abstract of a paper contributed by the Railroad Division and presented at the annual meeting of the American Society of Mechanical Engineers, New York, December 5 to 9, 1932.

more expensive to operate than to pay the heavier freight charges for long hauls from fewer plants. In the case of helium, this gas being separated from certain natural gases only, the location of the producing plant was fixed. Other considerations served to locate the air stations, and the distances between production and use were much greater than had hitherto existed for other commercial gases. In order that helium might be used at all, it was necessary to provide bulk transportation.

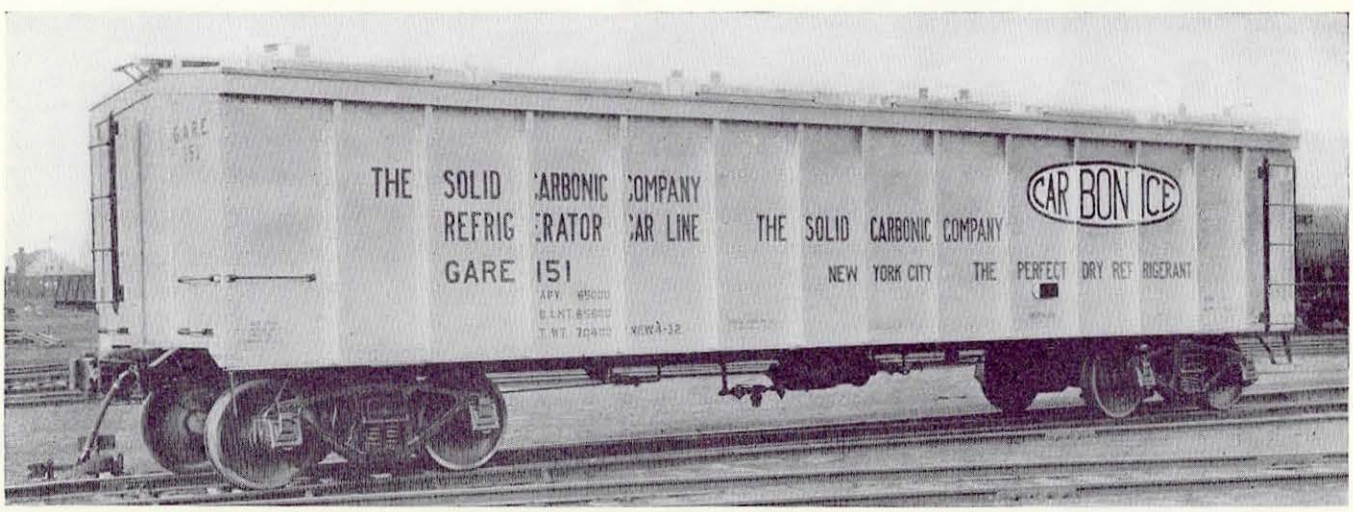
Large quantities of high-pressure gases naturally present problems of safety. It was also desirable to reduce the ratio of weight to cubic feet of gas. Several years study of this problem resulted in the construction of multi-tank type of helium cars. Safety was secured by cutting down the amount of gas stored in each tank and by the use of special alloy steel. A long, small-diameter tank with a comparatively thin wall was adopted as a further precaution. Tank walls ¾ in. thick made heat treatment easier, and it is believed resulted in more reliable construction and materials. The shipper desired the maximum quantity of gas possible. The design was limited by the A. R. A. clearance diagram, and it was desired to keep the car weight within reasonable limits in order to permit its operation on branch lines. Many of the elements of tank-car design, such as imposing all tank loads directly on the bolsters, were followed. This avoided the use of a deep, fish-belly sill and made possible the use of comparatively light side sills and superstructure. The greatest design problem was in the anchorage of the tanks. The tank stresses, due to their weight and the internal pressure of the gas, could be readily calculated. It would be quite impossible to calculate the stresses which the tanks might receive if they were subjected to forces caused by twisting of the car structure. It was therefore necessary to design the supporting and anchoring means to prevent the imposition of any stresses upon the tanks due to motion of the car structure.

This was accomplished by supporting each end of each tank in a bulkhead, alternate layers being anchored at each end of the car. The anchoring of each tank against longitudinal motion was accomplished at one end, the opposite end of the tank being permitted to slide back and forth with reasonable freedom in the opposite bulkhead. This allowed for changes in the length of the tank due to changes of temperature and pressure, as well as any changes in length of the structure. In order to keep within clearance limits, it was necessary to mount the tanks in close relationship with each other. This gave very little room for the anchorage parts. Both ends of each tank were necked down and threaded, and at the anchoring end a ball-shaped forging was screwed on. At the other end a cylindrical-shaped forging was attached. Beyond these forgings were attached ring and blind flanges for closing the ends of the tanks. Attached to the bulkheads were split sockets to engage the anchoring ball connections on the tank, while at the opposite end a saddle was provided for supporting the floating end of the tank. Means were also necessary for preventing rotation of the tanks. This was accomplished by a square key passing through the surface of the ball, and also through the corresponding socket in contact with it. Several years of operation have proved the soundness of this design, and no trouble has been experienced with the anchorage, or in fact with any other of the car details.

Aluminum Car

New developments in the chemical industry call for new types of rail equipment. Several years ago synthetic glacial acetic acid was first produced commercially, and the rapid growth of the rayon industry made it necessary to ship increasing amounts of this new material. Tests indicated that certain aluminum alloys could be safely used for car tanks. Plates of the necessary size were not immediately available, and the aluminum producer was compelled to install larger rolling equipment. The desire of the chemical company for tank material did not at all coincide with the necessity of the car builder as to the physical properties of aluminum for fabrication into tanks. Mutual concessions as to mechanical and chemical properties were necessary, and a considerable amount of experimentation had to be made before there was reasonable assurance that such cars could be produced which would stand up against modern railroad-operating conditions.

The cooperative efforts of the car user, builder, and material manufacturer resulted in the modern aluminum car, of which today there are nearly one hundred in operation. The trouble experienced with this equipment has been much less than would be anticipated, and there is a continued demand for these cars, a number having been built in the last few months. The latest aluminum car development is for the transportation of hydrogen peroxide. This car is shown in one of the illustrations. Hydrogen peroxide is rapidly coming into use as a bleaching agent for textiles, and even at the present price



This Car Is Insulated by 12-In. of Board Insulation—This Design Has Been Featured for Low Heat Losses and the Prevention of the Entrance of Moisture which Tends To Increase Heat Losses

of approximately $12,000 per carload, it competes with other bleaching agents.

The problems presented by hydrogen-peroxide shipments are even more difficult than for glacial acetic acid. There must be no rough spots in the tank or pockets in which hydrogen peroxide may decompose. Only certain alloys, low in manganese, iron and titanium may be used. Such alloys do not possess sufficient strength in an annealed condition, and it is necessary to fabricate the tank parts and then heat-treat them before assembly. The tank rivets must be heated in electrical temperature-controlled furnaces and driven quickly and within a prescribed temperature range. In the construction of such cars the car builder has progressed a long ways from the old-fashioned car-knocker type and becomes both scientist and metallurgist in order to construct this type of equipment.

Solid-Carbon-Dioxide Car

The commercial development of solid carbon dioxide has caused a demand for special cars for the economical transportation of this material. The sublimation point of solid carbon dioxide is approximately 109 deg. F. below zero. This low temperature presents problems of insulation and waterproofing not heretofore experienced in refrigerator-car design. The first cars built for the transportation of this material were standard refrigerator cars provided with extra insulation. Later, entirely special cars were developed which showed on test less heat losses, and experience has proved that they pick up less moisture in the insulation. Air at the usual atmospheric temperature and humidity, if allowed to penetrate the insulation of such a car and to approach solid-carbon-dioxide temperatures, will deposit moisture in the insulation, which in turn will rapidly increase car weight and increase heat leakage. Solid-carbon-dioxide cars have been known to pick up as much as 1400 lb. of water within six months. This, if allowed to continue, results in rapid deterioration of the car and considerable loss from carbon-dioxide meltage.

The latest type of car for this service, as shown in one of the illustrations, consists of a house car having six gas-tight metal compartments opening at the top only and insulated by 12 in. of board insulation. The car itself, which is of all-steel construction, is made thoroughly gas-tight by riveting and calking, together with a certain amount of calk welding. The interior is then further gas-proofed by a compound, after which the insulation is applied and compartments are built in and lined with sheet metal. All the joints in the metal are soldered, thus retaining the solid carbon dioxide in an atmosphere of its own gas. Gas which overflows from the top of the compartments through the compartment hatches then tends to diffuse into the insulation, preventing the entrance of moist air and thus preventing the deposition of moisture in the insulation. While this type of car is more difficult to load and unload, due to the top hatches, the decreased loss and better marketability of the blocks compensate for this loading disadvantage.

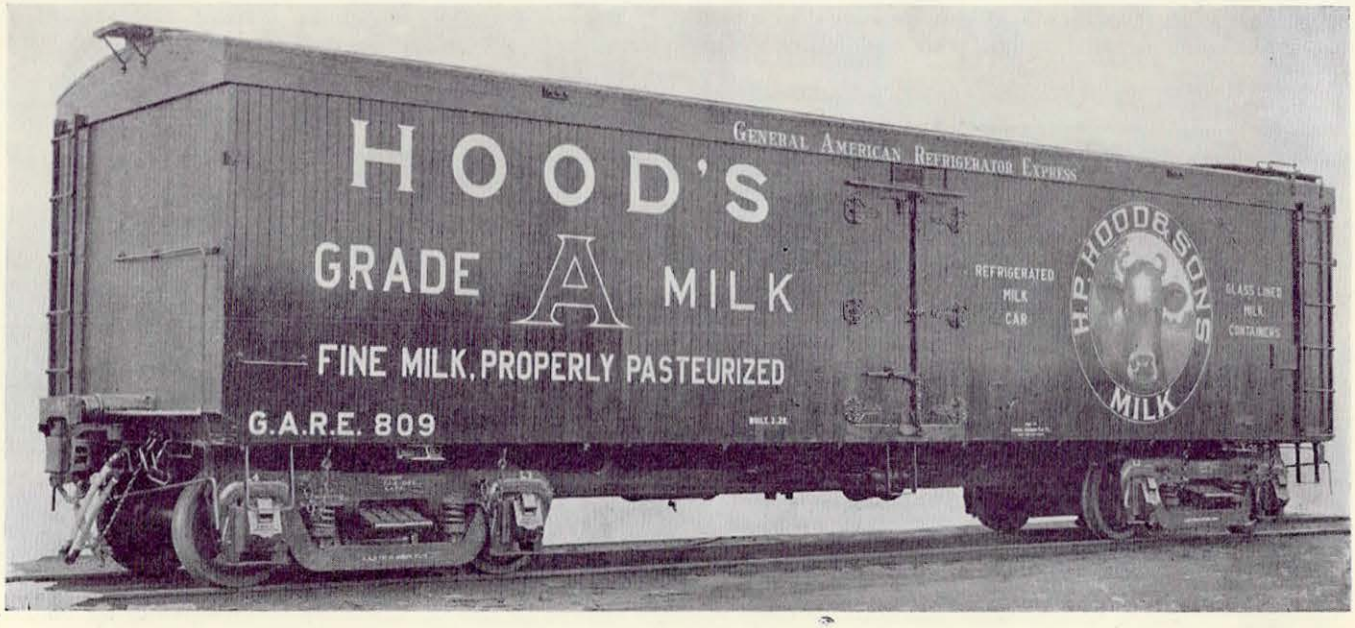
While solid carbon dioxide may be manufactured at any point, the tendency is toward purification of waste gases. Such gases rarely occur at points of maximum solid-carbon-dioxide use, making transportation of this material in bulk a necessity. Low freight rates permit transportation over comparatively long distances, and there will be undoubtedly greater use of similar special car equipment in the future.

Dry-Flo Car

From the time of the first house car until recently, loading and unloading methods have not been greatly improved. The ease with which liquid tank cars may be loaded and unloaded has undoubtedly contributed to their large use. If it would be possible to load and unload a dry commodity as easily, there is no doubt that the bulk shipment of such materials would increase, and the percentage of such materials transported over the rails might conceivably increase rather than decrease. The answer to improved handling methods of dry commodities is the recently developed Dry-Flo car.*

Cement, when aerated, will flow almost like water and will leak through openings of small size. The same material after a hundred miles of travel will pack so hard as to more closely resemble concrete than cement. As loaded, a few hundred pounds' pull is sufficient to move a chain conveyor through it, but after packing it may be necessary to exert a chain tension as high as

*A description of the Dry-Flo Car was published in the April 9, 1932, issue of the *Railway Age*, page 605.



Bulk Milk Carrier Equipped with Two 3,000-Gal. Insulated Glass-Lined Tanks

25,000 lb. to start the load. The Dry-Flo car, as finally perfected, consisted of a power unit driving right- and left-hand gear reducers, the chain-driving sprockets being attached to the slow-speed shafts and turning but a few revolutions per minute. The drag chains are pulled along the bottom of the tank towards the center, carrying the material to a central bottom outlet through which the lading falls into a bin or by means of conveying and elevating equipment to destination.

While it is true that the Dry-Flo car results in a certain saving of labor, the advantages are greater in other directions. Increased attention is being paid by health authorities to silicosis and other diseases caused by dusts. The Dry-Flo car, by suitable connections to the bottom outlet, may be unloaded with an entire absence of dust. This is a great advantage in clearing up difficult dust nuisances which exist in otherwise modern plants. Oil refineries have considerable difficulty with very abrasive fuller's earth, which may cause hot bearings as far away as one-quarter of a mile from a fuller's earth unloading plant. Large users of bulk cement, such as ready-mixed plants and manufacturers of wallboard and shingles, are often located within large cities. It is important that dust be kept to a minimum, and in certain cases the utilization of this new carrier has permitted more central location of plants than would be the case if it were necessary to carry cement either in sacks or in bulk in the usual box cars. The tank-car type of dry-commodity carrier better protects ladings from contamination and moisture. Box, sack, or barreling costs are eliminated. The transportation of dry commodities becomes as simple as the transportation of liquids. Again, the ease with which such materials may be transported results in increased use of rail transportation as against other competing means.

Food products, when shipped in bulk, are not sufficiently protected from contamination by merely papering the sides and floor of standard box cars. The use of special equipment, such as the Dry-Flo, protects such ladings and saves the cost of car preparation. Extensive tests indicate that certain food products may be shipped in bulk without harm and without any trouble from moisture condensation. The car itself may be used as a container for gasing in order to control bacteria and vermin. A further processing to remove paper, wooden splinters, and nails is unnecessary. Bulk handling of such products will result not only in economy, but will greatly reduce the dust nuisance and possible explosion hazard.

An investigation within the Chicago district indicates that an increasing amount of flour is now being carried by motor trucks, and it is believed that the adoption of a cheaper and more efficient carrier may be necessary to retain these shipments on the rails. Pebble lime is not ordinarily regarded as a food product, and yet it is extensively used in the treatment of city water. One middle-west city alone uses 21,000 tons per year. This material at the present time is shipped in unlined box cars, and under conditions which one would hesitate to consider sufficiently sanitary for use in the treatment of drinking water. Shipments of this material have been regularly made in the Dry-Flo car, not only at a saving in cost, but permitting the handling of this somewhat dangerous material under conditions which safeguard the city employees.

Milk Car

Milk is another food product shipped in special cars. A tendency is toward closer supervision of all units engaged in milk supply. This has resulted in a greater area from which the necessary amount of milk is drawn for use in the larger cities, and has resulted in the development of the modern rail milk car as shown in one of the illustrations. The equipment used is of the express-refrigerator type equipped for both passenger and freight operation. These cars are insulated, but are not provided with ice bunkers. Within the car are installed two 3000-gal. glass-lined milk tanks, each tank provided with a two-speed agitator, top-loading connection, bottom-unloading outlet, thermometer, and manway. A positive blower supplying filtered air is also provided within the car, enabling the milk to be easily unloaded. Milk cars are operated over routes as long as 400 miles, and due to the insulation around the tanks, temperature rise during transportation is seldom over one degree. Milk has been transported under emergency conditions as far as from Wisconsin to Florida with less than a two-degree rise in temperature. This is a good example of the possibility of bulk shipment of liquids in insulated tanks with little temperature change en route.

It is now proposed to ship molten rosin, very dense caustic-soda solutions, and high-melting-point asphalts without allowing these materials to become solid en route. There is no doubt that molten sulphur could be transported long distances, thus saving the labor of loading and unloading dry sulphur, as well as the operations of solidifying the sulphur at the loading end and possibly melting it at the receiving end. When the ratio of external area to volume becomes as favorable as is the case in 8,000-gal. and 10,000-gal. tanks, heat losses become almost negligible.

Refrigerator Cars—Special Trucks

The cars already described consist of but a small part of the special cars that have been built. Many special refrigerator cars are in operation, and more are in the process of development. The shipper of lettuce does not need a car as efficient as does a shipper of pork products. It is not possible that a carrier-owned, standard refrigerator car can be used for all purposes. This idea, prevalent a few years ago, has changed in favor of the construction of a number of specialized types of refrigerator cars. While mechanically refrigerated cars have been introduced, it is likely that these cars will be used for specialized service only. The bulk of refrigerated products shipped is being satisfactorily handled in present-day equipment, and with the constant improvement and increase of efficiency of new refrigerator cars built, the use of ice will no doubt continue indefinitely. Today, refrigerator cars are but developments of the original cars, which were house cars with a thin blanket of insulating material hung between the siding and lining.

Refrigerator-car development is proceeding along two lines. One is the further development of the existing car, and the other is a tendency to throw away all existing construction and strive for a refrigerator car of altogether new design. There are today many new insulations and materials which can be used in construction. There is no doubt that within a few years refrigerator cars will be built which will be lighter and which will show a lower maintenance cost. Present refrigerator cars are inaccessible and are difficult to repair. Side sills, posts, and braces rot out rapidly due to the condensation of moisture within the insulation. It is a question of how long the refrigerator-car industry can stand the high cost of maintenance with present equipment, and there is no doubt that radical design must be tried out in an effort to improve the efficiency of present cars and cut down the present excessive maintenance cost.

The lull in car building has spurred the development of special trucks, and there are now available new designs

which aim to provide easier-riding qualities than the standard A. R. A. trucks. These trucks are of special interest to users of special cars, as many of these cars, such as the aluminum tank car, the milk car, and the refrigerator car, could well be spared the vibration to which they are now subjected.

A more extensive use of special equipment is one means of rendering rail transportation more adaptable, cheaper, and more attractive to shippers, and will serve to retain traffic and to bring back tonnage on the rails. Low rates and improved service alone cannot retain the business unless convenient carriers are available. Most of this special equipment must necessarily be supplied by the shippers, but there is no doubt that the carriers themselves are today more sympathetic toward the development of special equipment than ever before. The number of special cars in use will always be but a small percentage of the total cars on the rails. The necessity for special cars will, however, constantly increase as industry advances. Without special car equipment, it is safe to say that industry would be stifled.

Baldwin's First Locomotive

IN 1832 Matthias W. Baldwin, founder of The Baldwin Locomotive Works, built his first locomotive, "Old Ironsides," in his machine shop in Philadelphia. It was ordered by the Philadelphia, Germantown & Norristown Railroad, which operated in Philadelphia and used horses for motive power. The locomotive was placed in commission in 1832, creating a great sensation. A dispute arose as to the amount of money due Mr. Baldwin and the matter was referred to arbitration. On January 10, 1833, an award was made in favor of Mr. Baldwin, which made possible the establishment of The Baldwin Locomotive Works.

Exactly a century later, on January 10, 1933, Samuel M. Vauclain, chairman of the board of The Baldwin Locomotive Works, presented the Franklin Institute in Philadelphia a model of "Old Ironsides." The story of the arbitration award can best be told in the words of Mr. Vauclain's presentation address:

"Exactly 100 years ago today, on January 10, 1833, occurred at Philadelphia an event of great importance to the future of industrial Pennsylvania, although I doubt whether you will find record of it in any contemporary newspaper or in any commercial history. On that day in 1833 was executed an arbitration award to Matthias W. Baldwin, the founder of The Baldwin Locomotive Works.

"In a letter to you dated also today, my associate, Mr. George H. Houston, the president of our company transmits a photographic copy of the report of the arbitration committee, together with photographs of our water-color portrait of Matthias W. Baldwin (1795-1866) and of the bronze statue of him recently erected in front of our new office building at Eddystone, Pa. One of the signers of the report was Samuel Vaughan Merrick, the distinguished mechanical engineer of Philadelphia, and as Mr. Houston notes, one of your two founders in 1824 of The Franklin Institute of Pennsylvania.

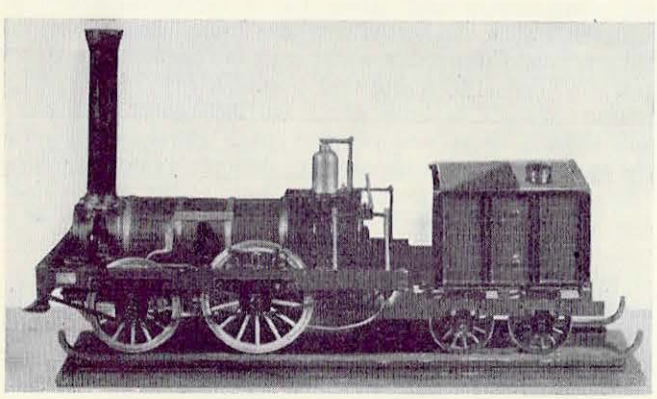
"The Baldwin Locomotive Works, like The Franklin Institute, takes a proprietary interest in Samuel Vaughan Merrick. It was he who in 1836 was the founder of Southwark Foundry & Machine Company, now a part of the Baldwin organization. Merrick held many other distinguished posts; in 1846 he became the first president of The Pennsylvania Railroad. His uncle, and patron, the celebrated John Vaughan of Philadelphia, from 1794 until his death in 1841, was the secretary of the American Philosophical Society, founded by Benjamin Franklin; and earlier, in 1780, John Vaughan had served as the secretary to the American Legation at Paris, under Franklin, who was the emissary to France of the American Colonies. I have often conjectured that it was this close family association with Franklin that led S. V. Merrick to name after Benjamin Franklin, scientist, inventor, philosopher and statesman, the great Institute which Philadelphia has honored during now over one hundred years.

"The report of the Arbitration Committee, of January 10, 1833, concerned the payment to be made to Matthias W. Baldwin by the purchasers of his first locomotive, 'Old Ironsides,' built in 1832. The payment award made possible a continuance of Baldwin's efforts in the field of locomotive building, then a new art. It made possible the erection of The Baldwin Locomotive Works, whose product was destined to provide transportation throughout the civilized world and to bring fame to Philadelphia at the four corners of the earth.

" 'Old Ironsides' was the first Baldwin locomotive for railway service! Unfortunately, The Baldwin Locomotive Works cannot today present to the Museum the original 'Old Ironsides' locomotive. It never wore out, but was caught in a landslide and destroyed.

"However, today, I have the great pleasure of presenting to you, Sir, for the Museum and on behalf of The Baldwin Locomotive Works, a scale model of 'Old Ironsides,' which we in our organization have long cherished as one of our most prized possessions—the only one of its kind in existence. It has been the centre exhibit at many international expositions.

"The model is a symbol of craftsmanship, of inventive genius, of pioneer effort, of courage in new fields, of adherence to quality production—characteristics which must ever be retained in American industry."



Model of "Old Ironsides"

THE VANDERBILT RAILROAD SOCIETY has recently been organized in New York with members recruited from among young men students who are interested in railways and who, upon completion of their education plan to pursue railway careers. Activities of the group included discussions of current railway problems and visits to railway facilities. Alfred H. Theiberger, 2244 Morris avenue, Bronx, New York, is secretary-treasurer of the society and meetings, to which all interested are admitted, are held every other Saturday afternoon in the Fordham Branch Library, 2556 Bainbridge avenue, New York. The next meeting is scheduled for January 28.

Operate Passenger Terminal Under Mammoth Building Project

Construct new Chicago postoffice over Chicago Union Station tracks without interfering with train service

The New Chicago Postoffice

THE construction of a great postoffice over the tracks and platforms of the Chicago Union Station is by far the most outstanding air-right development over railway tracks on which steam locomotives are operated. Not only is the building of enormous size, with ground dimensions of 796 ft. by 344 ft., but it covers 15 actively used station tracks, thus giving rise to the need for an elaborate smoke exhausting system, involving 14 large fans exhausting into 8 flues that extend to the roof of the 12-story building, and which are capable of removing every five minutes a volume of air equal to the total track-level space covered by the postoffice.

Difficult Construction Involved

However, the project is equally noteworthy by reason of the difficult problems imposed in the construction of so large a building over frequently-used railway tracks. The frame of the structure embodies many large structural steel columns, supported on concrete caissons from 4 ft. to 9 ft. 3 in. in diameter that were carried to rock by the Chicago or open-well method to an average depth of about 84 ft. below track level. Not only was it necessary, therefore, to excavate and concrete these caissons, and erect the columns as well as the girders for the first story above track level without interference with train movements, but the work had to be handled in such a way as to protect the passengers using the platforms from injury or inconvenience. The Chicago Union Station has two sets of stub station tracks depressed below street level, one group extending to the north and the other to the south. The area affected by the postoffice project is the area embracing the double-length block from Van Buren street to Harrison street and extending from the west side of Canal street to and embracing the railway mail terminal building, completed in 1922, which is to be reconstructed so as to become a part of the new federal building.

Equally formidable as the conditions cited above was the problem of fitting the building columns and track layouts to each other in such manner as to meet the exacting requirements of both, especially at the south end where the 15 station tracks converge into a 4-track approach. The thickness of the floor construction over the tracks was limited to a maximum of about 7 ft. but in some locations could not exceed 4.1 ft. from the top of the first or street floor level of the postoffice to the lowest part of the floor construction, which could not encroach on a vertical clearance of 17 ft. above the top of rail. The normal span lengths for floor beams as determined by the track and platform layout was 44 ft. 9 in., but in certain locations it was necessary to increase this length to a maximum of 57 ft. 6 in. Lateral clearances imposed equally exacting limitations, which were intensified by the sizes of the columns required to carry the heavy loads imposed by a structure from 9 to 12 stories high.

After extended studies a column layout was developed that permitted of a satisfactory ladder-track arrangement at the throat of the station yard, but which involved an extensive revision of the existing layout, namely, the removal or shifting of 6,569 ft. of track and its replacement by 5,986 ft. in an altered location. In the area thus affected 4 slip switches and 9 turnouts were replaced by 2 slip switches and 10 turnouts. In addition it was necessary to alter the ends of several of the platforms. Obviously, these changes gave rise to an equally drastic modification of the interlocking plant and to special measures for handling traffic while these changes were in progress.

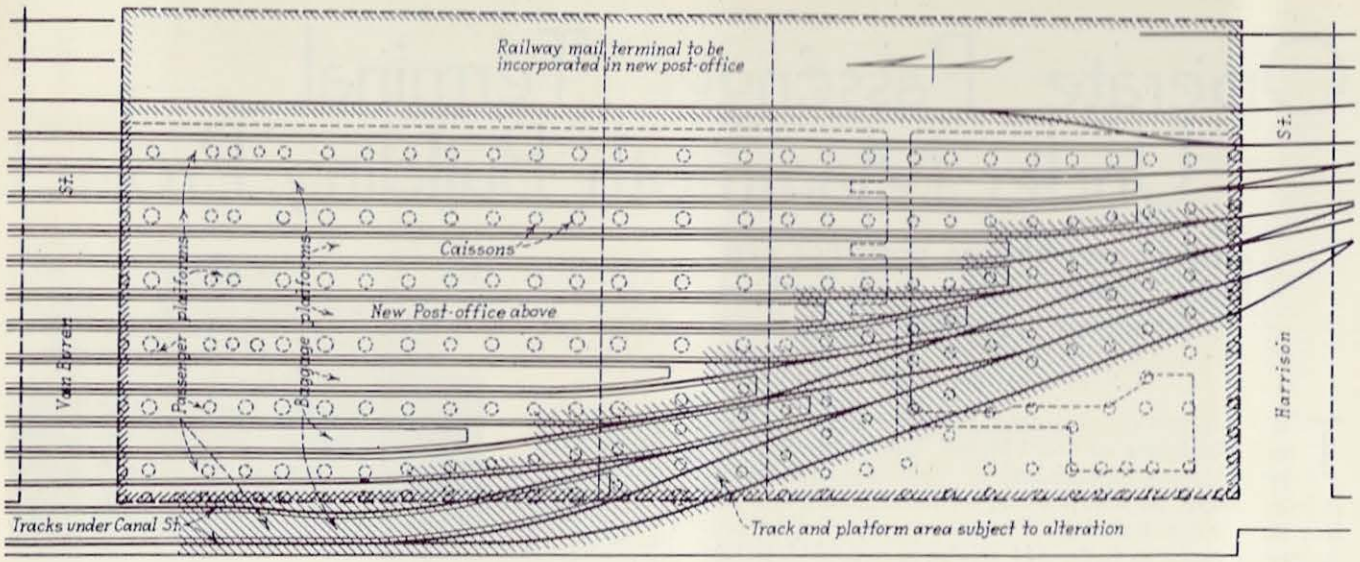
Finally, it was necessary to devise a progress schedule that would permit of an orderly procedure in the construction of the building and also avoid any interference with train movements. One factor contributing favorably to the development of such a program was the fact that one or two tracks could be taken out of service without interfering with train arrivals or departures. Another favorable circumstance was the fact that substantially the entire track layout as well as the platforms is underlaid by a concrete slab 10 in. thick, which in the case of the ladders, switches and slips, supports ordinary ballasted construction, while for the platform tracks it forms the base for a concrete-encased tie-block construction. This greatly facilitated the removal of old platform curbs and the construction of new ones in revised locations as well as the shifting of the tracks.

The track changes were made in one move, that is, from the original to the new position without introducing the use of temporary tracks or temporary locations. The work was planned so that no platform track was isolated more than 4 or 5 days, except Tracks 2 and 4, the two westerly ones, which were employed for a considerable period exclusively for construction purposes. Rails were cut and drilled to exact length in advance and, where they would fit, complete turnouts and slip switches were placed on rollers and moved to the new locations.

Interfered with Interlocking

Obviously, as these track changes were being made, the electro-pneumatic interlocking plant* became inoperative in so far as this particular part of the track layout was concerned, but instead of resorting to hand-operated switch stands, the novel expedient was adopted of moving the switch machines with the switches. Each machine was operated by compressed air as before, but instead of being controlled from the interlocking machine,

* This is one of the two plants installed when the station was built, by the Union Switch & Signal Company.



Plan of the Postoffice Site, at the Station Level—The New Building is Now Nearly Complete Except for the Reconstruction of the Railway Mail Terminal Along the East Side of the Area

they were controlled locally by a hand-operated, two-pole, double-throw enclosed switch, provided with an external handle. This switch box was mounted on the ends of the ties close to the rail so that it was virtually impossible for a man to reach the handle when a train is passing, thus precluding the possibility of throwing a switch under the train. In addition, a color-light switch target was provided at each switch which was inter-connected with the switch mechanism to show green with the switch in one position and yellow when in the reverse position. These light signals were provided for the benefit of the switch tenders or flagmen and a special assistant train director, who were responsible for the lining up of the routes in the portions of the track layout in which the interlocking plant was inoperative.

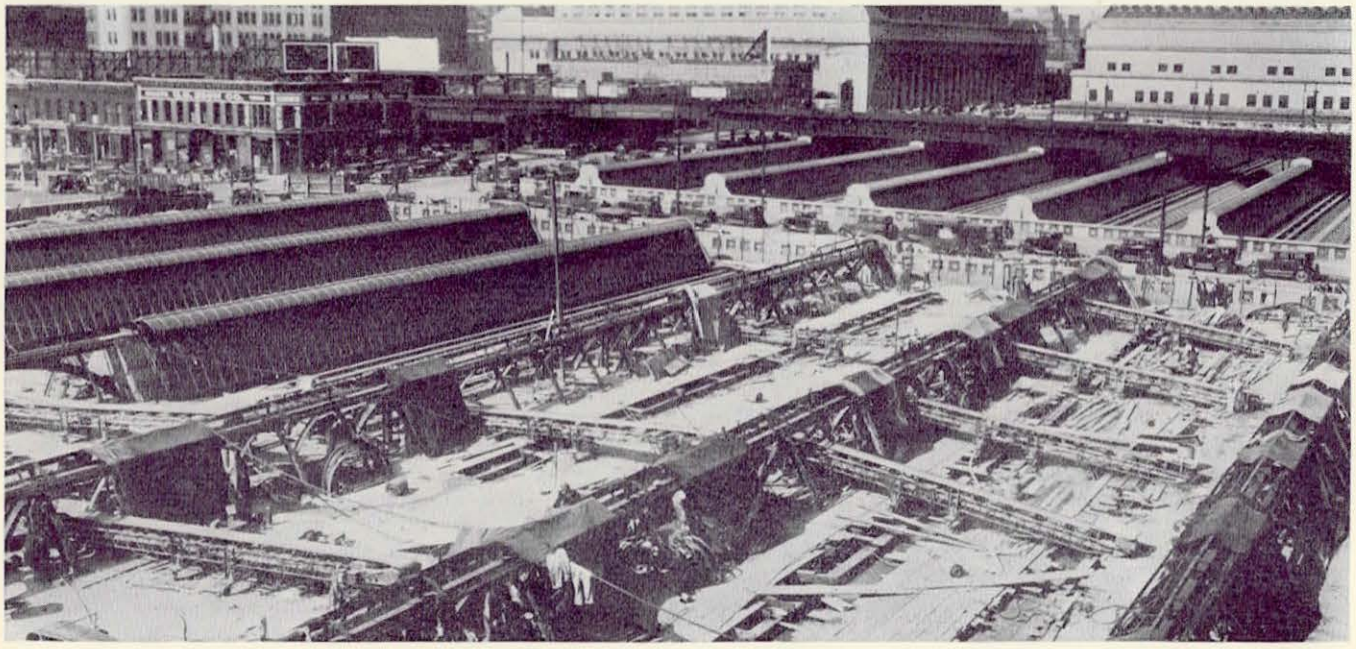
The assistant train director worked in co-operation with the train director in the interlocking tower through the aid of a telephone installed in a temporary switch cabin, erected in the affected area. Before a train was permitted to enter or leave the station over the tracks affected, the train director telephoned to the assistant director to line up the desired route and he did not clear the route for the train until an "O. K." was received from the assistant director. This method of operation was continued until the track and interlocking changes were completed.

New Wiring Required

The concrete base which was of advantage in carrying out the track changes proved an obstacle in the interlocking alterations because the wiring was in fibre ducts laid in the concrete and many of the manholes as well as the ducts were destroyed in the sinking of the foundation caissons for the postoffice. As a result, an entirely new wiring system had to be provided in the area at the throat of the station layout, using parkway cable in the ballast on top of the slab.

Rather extensive work was required also to take care of high tension lines carried in conduit because an important manhole had to be destroyed to make way for a caisson.

A study of the effect of the changes in the track lay-



How Foundation Operations Were Conducted From the Top of a Train Shed—The Tarpaulins Indicate the Location of Each Caisson

out showed that it would be necessary to make extensive changes in the mechanical locking in the interlocking machine, so many in fact, that it would be more practical to provide complete new locking. Accordingly, this was done and when everything was in readiness the change from the old to the new locking was made on a Sunday.

The Chicago Union station is provided with separate platforms for passengers and for the handling of baggage, mail and express trucks, and nearly all of the track and platform area is covered by a rather unusual type of train shed. It consists of a series of continuous flat-arched beams, spanning transversely between columns set on the center lines of the passenger platforms and providing substantially a flat roof approximately at street level except for the presence of heart-shaped lanterns or monitors over each passenger platform.

In planning the framing for the postoffice it was found most advantageous to locate the building columns on the center lines of the passenger platforms, and between tracks beyond the ends of the platforms. The sinking of the caissons and the erection of the columns, therefore, presented some rather specific difficulties because it was necessary to avoid any interference with the use of the platforms, while beyond their ends the track

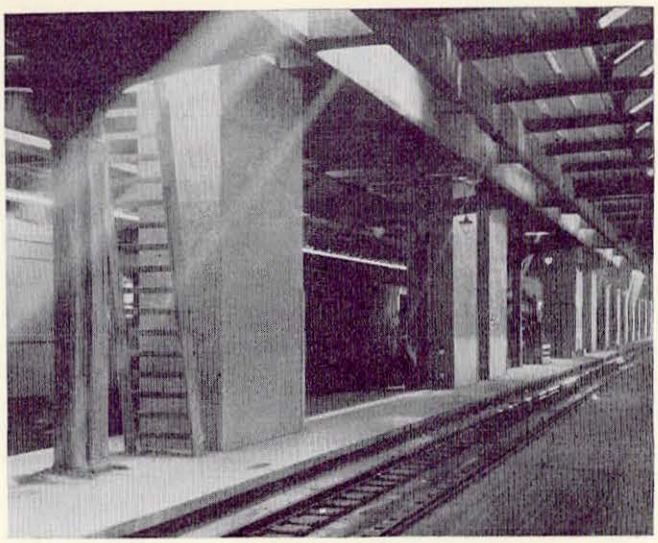
Starting the Steel Erection—Train Shed Columns in the Foreground

centers were so narrow as to allow little or no working space outside the column clearance lines.

Use Train Shed as Construction Platform

The presence of a train shed of unusually substantial construction, while adding to the cost of the work because of the expense of its removal, offered a means of effecting a way out of the problem of avoiding interference between the construction work and the station operations because a study of its design led to the suggestion that the roof of this shed could be used as the base of operations in the sinking of the caissons, if parts of the lanterns were removed. Accordingly, the concrete and glass tile roof of the lantern was stripped, the steel ribs were burned off so that they could be lifted down and loaded into gondola cars with a locomotive crane and the areas thus cleared were roofed over temporarily with planking. At the south end where there was no train shed, the contractor constructed a temporary roof supported on posts erected between the tracks.

Following the completion of this operation, tripods for the bucket hoists were set up on the roof over the location of each caisson and directly below these in the space between the surface of the platform and the underside of the roof, enclosures composed of wooden frames



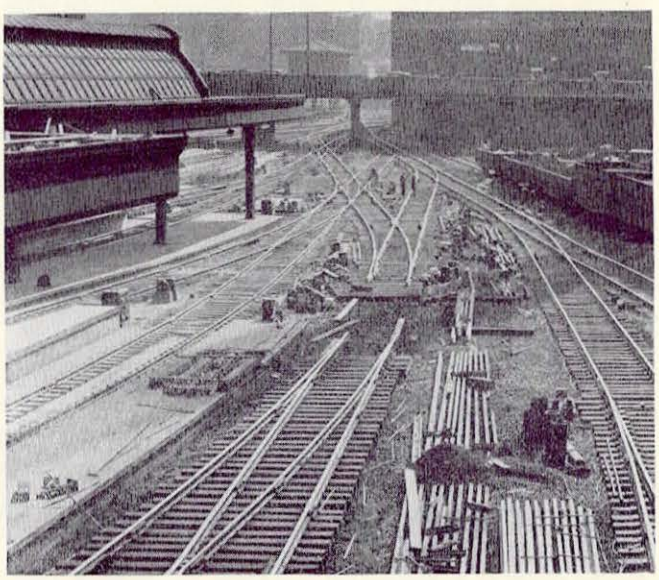
Plywood Boxes Serve as Shafts for the Caisson Hoisting Operations

and plywood sheathing were constructed to serve as hoist shafts that effectively isolated the excavating and concreting operation from the platform space. In fact, it is doubtful whether many passengers using the platform were aware that the caisson work was in progress.

No less ingenious is the manner in which the spoil was removed from and the concrete was delivered to the tops of the shafts. The fact that the train shed roof was not adapted to the use of motor trucks or other wheel vehicles led to the adoption of the belt conveyor system of material handling. These belt conveyors were arranged in such a way that the muck was fed on to a main conveyor extending east to a cantilever frame overhanging the river bulkhead where a scow was moored to receive the excavated material. The similar use of the belt conveyor for the delivery of concrete from a mixing plant placed in Canal street just west of the building, proved equally effective, and the only material handling, incident to the caisson work, that had to be done by manual means was the delivery of the staves and rings required for curbing the wells.

The Steel Erection

Following the completion of the foundations, the train shed was removed by a locomotive crane for a width of two panels south of Van Buren street, and the columns



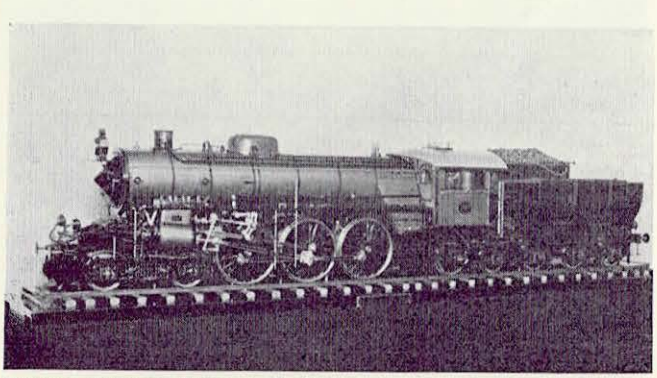
Track Changes in Progress

and beams for the first floor level were set in place from the track level. This was done to provide a platform sufficiently large to permit the erection of the first of the large derricks used in the erection of the building frame. This stage of the operation having been completed, the work was continued by the large derricks, except that the work of removing the train shed was continued with the use of the locomotive crane. This work was carried on over only one pair of tracks at a time, which were taken out of service in the interval so as to avoid any possibility of injury or inconvenience to passengers or railway employees. The erecting of the first story of the steel building frame was followed up with the construction of timber shelters or flat canopies (suspended from the floor girders) to protect users of the platforms from the weather and from falling rivets, etc. This was built low enough to permit the construction of form work for the concrete fire-proofing of the first-floor steel work.

After this work had been completed, these shelters were removed and thereafter the work on the postoffice entailed no interference whatever in the use of the station tracks and platforms. As a matter of fact, the construction work, track changes and interruption of interlocking service did not involve the delay of a single train either in or out of the station. It is true that station tracks were frequently taken out of service for considerable periods of time, but the station possesses an excess of capacity that readily permitted this, and no track was "killed" without consultation with the station master to insure that train service requirements were adequately fulfilled. To meet the special conditions arising from the fact that commuters were accustomed to find their regular outgoing train on the same track each evening and would board the train on that track without looking at the train indicator, special signs were posted conspicuously, warning passengers to verify their trains daily.

The changes in the facilities of the station incident to the construction of the postoffice are under the direction of O. H. Frick, general manager, and C. E. Cox, chief engineer, of the Chicago Union Station Company. The change in the track layout was developed by C. J. Noland, assistant engineer, in co-operation with the structural engineers of the architect for the postoffice, Graham, Anderson, Probst & White, Chicago. The alteration of the interlocking facilities was handled by Thomas Holt, signal engineer and A. T. Ferguson, signal supervisor, with company forces. Track changes were also handled by the track forces of the station company, but all structural work, including the removal of the old train shed and the platform changes, etc., was done by the contractors for the postoffice, John Griffith & Sons, Chicago.

* * *



Courtesy Railways Museum, Stockholm

A Scale Model of a Recent Type of Swedish Locomotive on Display in the Railways Museum at Stockholm

Freight Car Loading

WASHINGTON, D. C.

REVENUE freight car loading for the week ended January 7 amounted to 435,652 cars, an increase of 28,873 cars as compared with the week before, which included the Christmas holiday, but a decrease of 136,026 cars under the total for the corresponding week of last year which did not include a holiday. As compared with 1931 the reduction was 277,476 cars. All commodity classifications showed increases as compared with the preceding week and with the corresponding weeks of the past two years. The summary, as compiled by the Car Service Division of the American Railway Association, follows:

Revenue Freight Car Loading

Week ended Saturday, January 7, 1933

Districts	1933	1932	1931
Eastern	97,468	130,403	155,255
Allegheny	79,522	112,471	142,617
Pocahontas	35,363	35,852	44,930
Southern	71,161	87,422	111,739
Northwestern	48,966	65,422	86,073
Central Western	63,902	90,103	113,239
Southwestern	39,270	50,005	59,275
Total Western Districts	152,138	205,530	258,587
Total All Roads	435,652	571,678	713,128
Commodities			
Grain and Grain Products	24,108	27,492	39,520
Live Stock	15,709	24,566	27,171
Coal	103,086	125,927	164,866
Coke	5,277	6,005	8,915
Forest Products	12,242	16,821	29,975
Ore	1,216	3,194	5,167
Mdse. L. C. L.	133,534	183,470	202,384
Miscellaneous	140,480	184,203	235,130

Car Loading in Canada

Car loadings in Canada during the week ended January 7 amounted to 26,782 cars, which was an increase over the previous week of 1,711 cars. The holidays in both these weeks affected the loadings, but, after adjustments were made for these seasonal variations, the index number showed a rise from 54.68 to 60.10.

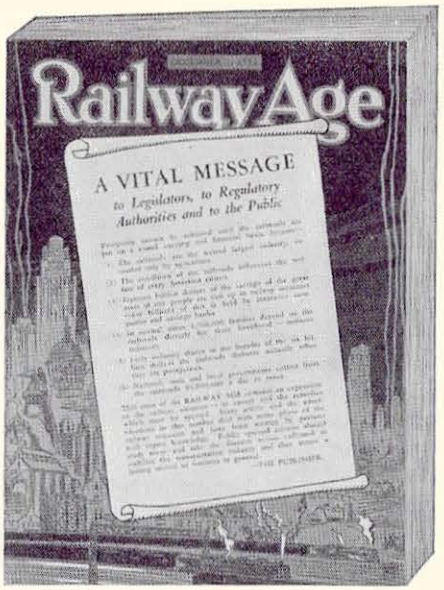
	Total Cars Loaded	Total Cars Rec'd from Connections
Total for Canada:		
Jan. 7, 1933	26,782	14,995
Dec. 31, 1932	25,071	14,271
Dec. 24, 1932	31,763	17,339
Jan. 9, 1932	38,965	19,450
Cumulative Totals for Canada:		
Jan. 7, 1933	26,782	14,995
Jan. 9, 1932	38,965	19,450
Jan. 3, 1931	36,349	21,966

A PROJECT FOR THE ELECTRIFICATION of railways in Balkan countries to cost 17,000,000,000 francs, about $675,000,000, by an Anglo-Franco-German consortium, was recently announced to the press by the French Under-Secretary for National Economy, Raymond Patenotre, on his return to Paris from conferences with German Cabinet officials and industrial leaders. Details of the plan are not yet available from the Commerce Department.

THE COMMITTEE ON PUBLIC RELATIONS OF THE EASTERN RAILROADS has issued the 1933 Railroad Calendar, which, being prepared in the usual form, shows graphically where freight rates and passenger fares go. The basic data for this 1933 calendar cover railway operations for the year 1931 when wages consumed the revenues of 163 days; locomotive fuel purchases, 19 days; purchases of materials and supplies, 65 days; other operating expenses, 32 days; and taxes, 26 days. Revenues of the remaining 60 days were insufficient to pay 1931 interest charges and rentals, since these fixed charges required, in addition, the equivalent of four days' receipts from revenues of prior years. The 1932 calendar, based on 1930 revenues, depicted wages as requiring the receipts of 157 days; fuel purchases, 19 days; purchases of materials and supplies, 66 days; other operating expenses, 29 days; taxes, 24 days; interest and rentals, 51 days; and dividends, 20 days.

The Story of the December 3 Issue

Dramatic presentation of the case for the great railway industry attracted nation-wide attention



NO OTHER issue of the *Railway Age*, and probably no issue of any other publication, has ever attracted the attention won by the December 3 issue of the *Railway Age*, which presented the facts regarding the railway situation directly to the legislative and regulatory representatives of the people of the United States. Although the remarkable response from those to whom this extraordinary message was especially directed has been most gratifying to the publisher, it should be a source of even greater satisfaction to the railways, to the railway supply companies, who look to the railways for their business, and to the employees of both, in all of whose interests the December 3 issue of the *Railway Age* was published.

Over a long period of years, the *Railway Age* has carried on a vigorous campaign to secure fair treatment and assurance of adequate prosperity for the railways. Through its editorial columns and through contributions to the columns of a wide variety of other publications, the *Railway Age* has pressed forward persistently in this campaign. The December 3 issue, well timed for its purpose, brought these efforts to a climax in an unprecedented way.

The idea which was crystallized in the December 3 issue was born within the *Railway Age* organization. It recognized that immediate action toward the solution of the railroad problem is imperative, not only to safeguard the backbone of the transportation industry, but also, by clearing the way for the return of railway buying power, to provide the essential foundation for a lasting revival of general business. It was recognized also that, well directed and effective though the railways' efforts had been to secure legislative relief from unfair conditions of competition, these would never be wholly effective until the entire railway industry, including the railways, the railway supply companies, their employees and all others vitally concerned with the welfare of the railways, combined to voice their demand for corrective legislation in dramatic unison. It was recognized that only a concerted effort on the part of railroad companies and of other companies concerned in railway prosperity would be sufficient to exert the necessary pressure for action upon the public, upon state and national legislators and upon government regulatory bodies.

A Unique Plan

It was decided that this united voice would best be heard through the medium of the *Railway Age*, with one issue to be devoted in its entirety to a message concerning the railway situation, directed to the public, the legislators and to regulatory authorities. A plan believed to be unique in publishing history was adopted as a means of making the message most effective. This plan was to devote the editorial pages to an exposition of the railway situation for the country as a whole, with the advertising pages to be utilized by railway and railway supply companies alike to tell the effect upon them and upon their employees of the distress of the railway industry.

Because of the whole-hearted co-operation of the many railway and railway supply companies which took advantage of the opportunity offered in the December 3 issue, this plan was carried out to an extent which has won wide-spread admiration. Nearly all of them disregarded, for the purposes of this issue, the products and services which they normally would have advertised, and devoted the space at their disposal to messages tied very closely to the contents of the editorial pages. This subordination of the advertisers' own immediate interests in united support of the interests of their industry is believed to be unparalleled in advertising history.

Briefly, the editorial contents of the December 3 issue began with an introduction by the editor, describing the purposes and contents of the issue, and summing up the railway case. Then followed a series of articles describing the effects of unfair regulation and unfair conditions of competition, in the decimation of the railways' revenues, in the loss of jobs by hundreds of thousands of their employees, in the idleness of the supply industry and the laying-off of thousands of their employees, in the losses of investors in railway securities, in damage to shippers because of chaotic conditions in transportation, and in the reduced collections of taxing bodies which look to the railways for so large a share of their revenues.

The next series of articles described the causes of present railway conditions, including inadequately regulated and inadequately taxed motor transportation, inland waterway, Panama canal and coastwise shipping, and subsidized air transportation, with resultant unfair competitive conditions, and the over-regulation of the railways themselves.

In the following series of articles, there was a full report on what the railways are doing to help themselves out of their present predicament, through improvements in their freight and passenger service and through the modernization of their transportation equipment. Finally, there was a series of articles with detailed and specific suggestions as to changes in the regulation and taxation of motor transportation, waterway transportation and air transportation, which must be made in the interest of fair play to the railways, and also what changes need to be made in the regulation to which the railways themselves are subject.

As a matter of policy, each article in the editorial pages was prepared by a member of the *Railway Age* staff, these editors in the course of their ordinary duties having acquired the knowledge of the subjects covered necessary to write authoritatively upon them. The editors, of course, solicited and received unstintingly the co-operation and counsel of men who have been directly concerned with the subjects discussed, so that the statements and recommendations contained in each article represented not only the viewpoint and conclusions of the *Railway Age* staff, but also those of many men in the railway industry. The editorial staff of the *Railway Age* likewise assisted, when requested, in the preparation of the statements set forth in the advertising pages by railway and railway supply companies. The staff necessarily was augmented to the extent required by the huge task to be completed in only a short time.

The All-Important Matter of Circulation

Fully as important as the preparation of the right sort of editorial material and advertising copy was the work of arranging for the proper circulation of the issue, since upon this circulation depended the effect of the issue's appeal. No matter how clearly the case for the railways was presented in the issue, it would have no chance if the issue itself failed to reach and to attract the attention of individuals and institutions who are in a position to take an active part in the correction of present railway conditions. It was essential, therefore, that the issue reach every senator, every Congressman, every state legislator, the principal federal and state officers, the members of interested regulatory commissions, and also a long list of daily newspapers, business papers, insurance companies, financial institutions, educational institutions, chambers of commerce, farm papers and others.

The issue was sent, of course, to all regular subscribers. In addition, 10,500 copies were sent to members of the present Congress, members-elect of the next Congress, governors and governors-elect, state legislators, state railway commissioners, state highway commissioners, editors of daily newspapers, chambers of commerce and editors of leading farm papers. Thirteen copies went to the President and his cabinet and to the President-elect. To the presidents of insurance companies and leading financial institutions went 1,520 while 100 went to the editors of leading business papers, 21 went to the presidents of railway brotherhoods and more than 1,000 went to the leaders of railroad employees' and taxpayers' associations and ship-by-rail clubs in the various states. A large number of copies were distributed by individual railways to influential people, not included in the *Railway Age* mailing list, along their lines.

A Stupendous Task

With the issue coming out so soon after the November elections, the task of compiling lists of newly-elected members of Congress and the state legislatures was one of great magnitude. So many different lists were to be compiled, they were to be gathered from so many sources, and it was so important that they be accurate and complete as to name, title and address, that an early start was made in their preparation. The job was not completed until early in December, after having been started in August.

The various secretaries of state, political editors of newspapers and the leaders of local party organizations, together with many directories, year books, association membership lists and Department of Commerce bulletins, were called upon in the preparation of the legislative mailing lists. Careful attention was given to these lists between the time of their compilation and the time of their use. Daily newspapers were read to secure all changes made necessary by reason of deaths, resignations and new appointments, etc. Between September 1 and December 1, approximately 300 changes of this nature were made. Even after the magazine wrappers had been addressed, one United States senator and two members of the present Congress died, making further changes necessary.

The most severe pressure came in the three weeks following the election on November 8. Securing the names of the successful candidates for governor, senator and congressman was easy, but getting the home addresses was another matter. The resources and ingenuity of the company were taxed to secure this essential information, but it was secured and in time for use. It is a remarkable fact that, while co-operation was asked from and given by several hundred individuals, and while in every instance the offer was made to honor any bill which might be tendered for this service, so eager was the universal desire to help the *Railway Age* in its task that only one bill was received and that was for 20 cents for a copy of a Sunday newspaper that did not contain the information desired.

One of the circulation problems was that of duplication in the various lists compiled. It happened in several cases that the same individual was down, for example, as president of a bank in one city, president of a trust company in another and governor or congressman, or what not, in still another city. The frequent changes in the announced plans of the President-elect required that the wrappers of his magazine be successively addressed and destroyed for Albany, N. Y., Hyde Park, Warm Springs, Ga., and then Hyde Park again. All these difficulties were overcome, however, and the mailing of the issue was completed at the time planned, with copies going to everyone to whom they should have gone.

Letters Call Attention to Issue

In order to make doubly sure that the issue would attract the personal attention of those to whom it was addressed, the editor of the *Railway Age* sent personal letters to all those, outside the normal circle of *Railway Age* readers, to whom the December 3 issue was sent. These letters were transmitted by first class mail and were sent out at such times that they reached the addressees as nearly as possible simultaneously with the copies of the magazine. The letters sent—there were half a dozen kinds—described the issue and its importance, and urged close attention to the magazine's contents. The message was pounded home still further by a series of newspaper releases, containing excerpts from articles in the December 3 issue, which were sent to a large list of newspapers in all parts of the country.

In other words, everything was done which could possibly be done to make the issue as effective as possible, both in its editorial columns and in its advertising pages and to make sure that its message received the immediate attention of everyone in the United States who was in a position to act upon its demands. Otherwise, the issue would have had a lessened chance of accomplishing its very definite purpose in behalf of the railway and the railway supply industry. All of the intensive effort which was put into the issue would have been futile unless it succeeded in accomplishing its purpose, which was to attract the attention of legislators, regulatory authorities and the public by a dramatic presentation of the railway situation, its causes and its cures.

Response Immediate and Enthusiastic

Did the issue succeed in accomplishing its purpose? As this is written, letters of appreciation and expressions

of keen interest in the issue's contents are still being received, although already 631 have been tabulated. Of this number, nearly one-third are from members of that group to whom the issue was especially addressed—government and state officers, members of Congress, members of state legislatures and members of public utility commissions. Of the 201 letters already received from this group, 115 are from state legislators, 61 from national legislators, 10 from members of public service commissions, 7 from state governors and 8 from the President, the Vice-President and members of the Cabinet.

From railroad officers, a total of 199 letters have been received. From the officers of railway supply companies have come 87 letters, while 38 have come from various chambers of commerce, 48 from banks and other financial institutions, 11 from insurance companies, 11 from railway brotherhoods and 4 from colleges. In addition, 29 letters have been received from publications of various kinds, including 10 newspapers, 13 business papers and 6 magazines of a general nature. In the letters classified as being from business papers are 3 received from farm papers. The convention of railway employees and taxpayers associations held in Cincinnati, on December 19-20 passed unanimously a resolution expressing appreciation of this issue and its gratitude to the *Railway Age* and the advertisers who made the issue possible.

Of the 175 letters received from state and national legislators—those in the best position to give the railways legislative relief—43 were from members of Congress representing 22 states, 18 were from senators representing 15 states and 114 were from state legislators representing 43 states.

Every state in the Union is represented in the letters of acknowledgment and of appreciation which have been received from the legislative representatives of the public.

What They Said about the Issue

The comments on the issue and upon the railway situation in general, which are made in the letters, are interesting, in that they indicate an appreciation of what the railway and railway supply industry did in the December 3 issue and a sympathetic interest in the railway situation. It is, of course, impossible to quote from more than a few of the letters received, but the quotations below, identified by the captions as to the source of the letters quoted, have been taken almost at random from the hundreds of letters received. It has been unnecessary to pick and choose from the letters, since the great majority of them are of the tenor of those quoted.

A Cabinet Officer's Comment

A member of the President's cabinet wrote, "You have brought together pertinent information about transportation that should be in the hands of everyone having a decision to make in this important field. I was particularly impressed by your article on 'Who Are the Railways' Owners?', since I have known that many fail to sense the importance of the railways to many other institutions and individuals."

A governor, expressing thanks for his copy, wrote, "The railroad situation concerns me tremendously. I believe something must be done to prevent an increase of unfair competition between the heavy freighters on our highways and the freight trains on our railroads. I enclose a copy of a letter I sent to governors of the various states, indicating my belief that we should meet this issue squarely now by setting a maximum weight on the big freighters to the end that unfair competition with our railroads can be prevented. Our state highway systems were built to serve all of the people, not the very few who want to run giant freighters on publicly constructed roads."

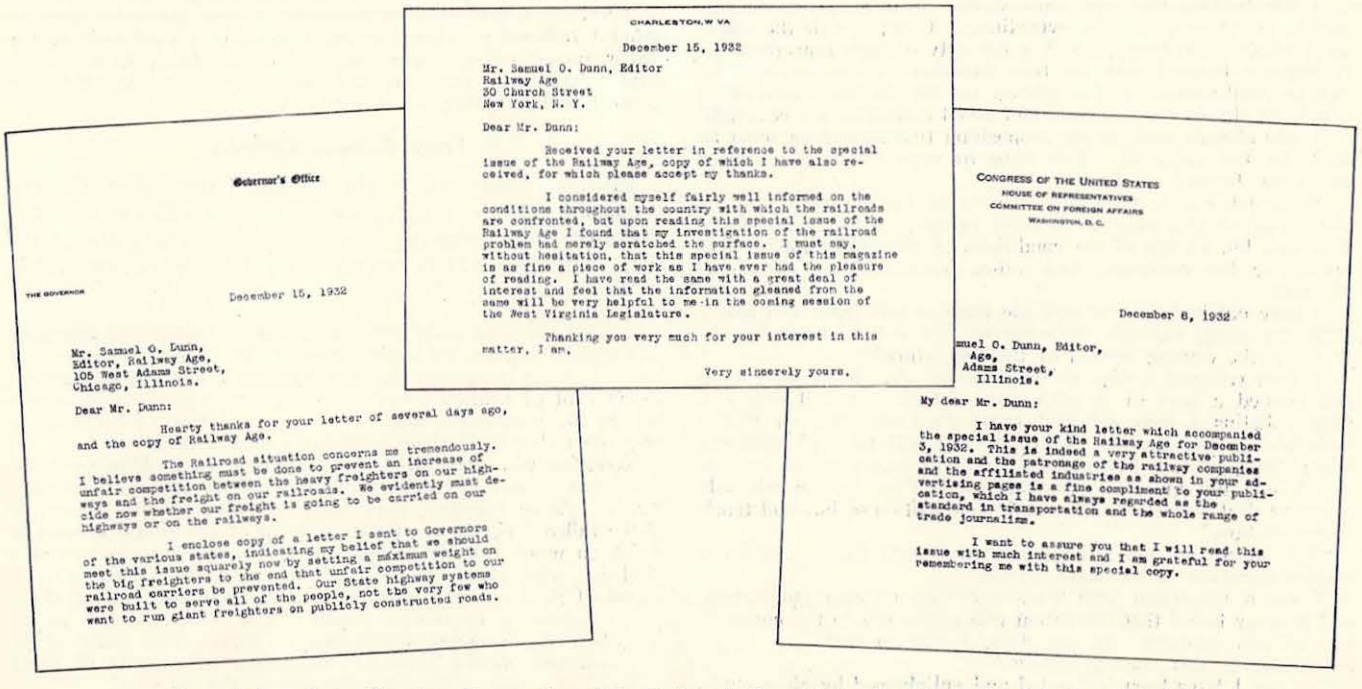
From United States Senators and Members of Congress

"Thank you for sending me the special issue of the *Railway Age*. I shall be glad to read it. Am deeply interested in the subject."

"I shall be pleased to give a reading to this copy of your magazine as I feel sure it contains much of interest and value relative to transportation problems."

"I shall be glad to avail myself of your presentation of the railroad problem."

"I am giving most careful and earnest study to the issue and I thank you for sending it to me."



CHARLESTON, W. VA.

December 15, 1932

Mr. Samuel O. Dunn, Editor
Railway Age
30 Church Street
New York, N. Y.

Dear Mr. Dunn:

Received your letter in reference to the special issue of the Railway Age, copy of which I have also received, for which please accept my thanks.

I considered myself fairly well informed on the conditions throughout the country with which the railroads are confronted, but upon reading this special issue of the Railway Age I found that my investigation of the railroad problem had merely scratched the surface. I must say, without hesitation, that this special issue of this magazine is as fine a piece of work as I have ever had the pleasure of reading. I have read the same with a great deal of interest and feel that the information gleaned from the same will be very helpful to me in the coming session of the West Virginia Legislature.

Thanking you very much for your interest in this matter, I am,

Very sincerely yours,

Governor's Office

THE GOVERNOR

December 15, 1932

Mr. Samuel O. Dunn,
Editor, Railway Age,
105 West Adams Street,
Chicago, Illinois.

Dear Mr. Dunn:

Hearty thanks for your letter of several days ago, and the copy of Railway Age.

The Railroad situation concerns me tremendously. I believe something must be done to prevent an increase of unfair competition between the heavy freighters on our highways and the freight on our railroads. We evidently must decide now whether our freight is going to be carried on our highways or on the railways.

I enclose copy of a letter I sent to Governors of the various states, indicating my belief that we should meet this issue squarely now by setting a maximum weight on the big freighters to the end that unfair competition to our railroad carriers be prevented. Our State highway systems were built to serve all of the people, not the very few who want to run giant freighters on publicly constructed roads.

CONGRESS OF THE UNITED STATES
HOUSE OF REPRESENTATIVES
COMMITTEE ON FOREIGN AFFAIRS
WASHINGTON, D. C.

December 8, 1932

...muel O. Dunn, Editor,
...Age,
...Adams Street,
Illinois.

My dear Mr. Dunn:

I have your kind letter which accompanied the special issue of the Railway Age for December 3, 1932. This is indeed a very attractive publication and the patronage of the railway companies and the affiliated industries as shown in your advertising pages is a fine compliment to your publication, which I have always regarded as the standard in transportation and the whole range of trade journalism.

I want to assure you that I will read this issue with much interest and I am grateful for your remembering me with this special copy.

Appreciation of the Complete Presentation of the Railways' Case Marks the Hundreds of Letters Received

"I have not had time to read it as carefully as I had hoped to, but I have read enough to appreciate that the advertisements and the editorials make up a notable presentation of the railway situation. It naturally interests me very much."

"The facts and the treatment of the problem confronting this major industry are illuminating and interesting. Thank you for your thoughtfulness in sending the copy, which will be a valuable contribution to my reference library."

"I am giving much study to the transportation problem and am glad to get information on that subject."

"I have long held some decided views upon the railway situation. My sympathies lie primarily with our agricultural industry. In the interest of agriculture, I have always advocated the discouragement of the use of our highways for the traffic formerly handled by the railroads. The railroads are absolutely essential for the handling of farm products, and the farmers desire lower freight rates on grain and livestock. However, they cannot expect those rates if we permit the railroads to be deprived of a vast amount of their other business and revenues. The supervision of railway activities by the Interstate Commerce Commission is absurdly restrictive. In general, I find myself very much in sympathy with most of the objectives set forth on page 764 of your issue."

"The problems of the railroad industry will receive my earnest and sincere consideration, and I promise to do everything within my power as a Congressman to help place that industry in its normal position in the commerce and affairs of this country. I might add that the issue to which you refer has been called to my attention through various other sources. When the time comes I shall do all I can to help the railroad industry."

"If possible, i would like very much to secure another copy of this issue that I may have it at home in connection with a study of the entire transportation problem."

"This is indeed a very attractive publication and the patronage of the railway companies and the affiliated industries, as shown in your advertising pages, is a fine compliment to your publication, which I have always regarded as the standard in transportation and in the whole range of trade journalism. I want to assure you that I will read this issue with much interest."

From State Legislators

"In my opinion, this particular issue of the *Railway Age* will give legislative bodies and the people in general a more comprehensive knowledge of the conditions confronting the railroads today. It puts forth in graphic detail the needs of the railroads and the importance of putting them upon an equitable basis of operation, as compared to other means of transportation."

"It (the issue) seems to cover the entire subject of the relationship of the legislative departments of the government to the railroads, and I intend to go over it carefully when time presents itself. I assure you that I do not believe that unfair methods should be taken against the railroads, and you can rest assured that the railroads will get a square deal as far as my vote is concerned."

"I am reading the copy from cover to cover, including editorials, advertisements and everything. I agree with the statement of one contributor that it is the duty of each representative to acquaint himself with the true situation. I congratulate you and the contributors to this edition for the thorough manner in which the ills of the railroads and allied industries are covered."

"I was already sold on the proposition that something must be done for the railroads. This issue of your magazine confirms me in my former opinion."

"You and your entire staff are to be complimented on the publication of this issue, as it gives everyone a better and more thorough knowledge of the conditions as they exist today, pertaining to the railroads, their allied industries and their employees."

"I have not had time to read the issue in full, but I feel that I shall get much valuable information that will be of great use to me in the coming session of the legislature."

"I have received a copy of the *Railway Age* and I have read and studied a part of it with great interest. I will retain it with bulletins I have received from the Committee on Public Relations of the Eastern Railroads and will take all with me when the legislature assembles. This will enable me to support and defend any and all legislation proposed to give the railroads a square deal as regards the unfair competition of bus and truck transportation."

"You surely put out a wonderful issue, and I will keep it on file for reference at the state capitol."

"I am in agreement with the stand taken by your publication, and it is my belief that regulation will soon come to the competitors of this industry. In my state, I plan to back such legislation during this coming session."

"To say I have been instructed and enlightened by close study of the magazine would be putting the matter lightly. I have been simply amazed. The education gained concerning railway operation and its relation to taxes will be extremely useful to me in the coming legislative session."

"The portions referring to the St. Lawrence development are very important to those of us who live in Northern New York."

"I considered myself fairly well informed on the conditions throughout the country with which the railroads are confronted. Upon reading this special issue of the *Railway Age*, I found that my investigation of the railroad problem had merely scratched the surface. This special issue is as fine a piece of work as I have ever had the pleasure of reading. I have read it with a great deal of interest and feel that the information will be very helpful to me in the coming session of the West Virginia legislature."

From Newspapers and Magazines

"The issue is a veritable encyclopedia of information about the railway situation and it will most certainly be of value to all editors who endeavor to make intelligent comment upon the present plight of one of the nation's great industries."

"I am taking the 'Vital Message' from your front page so that I can put it in front of the shoe and leather people, so that they, in turn, can see their obligation to the railroads."

"I have examined this volume very carefully and want to congratulate you and everyone who has contributed to this wonderful edition. Several of the articles contain information that will be of considerable interest to executives in our (steel) industry. In some of our early issues, we may want to relay some of this information to our readers."

"I have prepared an article for the January edition based upon the advance matter which your office has sent me."

"I very much appreciate your sending me this copy, for it gives us an opportunity to present an editorial calling attention to the problem of the railroads and its bearing on unemployment and relation to the general business situation. We are hopeful that we will be able to get this editorial into the January issue."

From Banks and Chambers of Commerce

"The December 3 issue of the *Railway Age* was indeed a fascinating study to me, and I believe it to be one of the most comprehensive attempts of its kind ever undertaken."

"This is a splendid contribution to the country, for the sooner the people understand that governmental subsidies are paid by them, the sooner we can expect relief."

"This number is replete with interesting and vital information and discussion, and to the extent that it reaches the hands of those whose influence is most needed, it exerts a tremendous influence in behalf of our railways."

"I find much information in it that should provoke most serious thought by business leaders and those elected to positions of authority in the state and federal governments. This special issue should help to get our leaders thinking ahead rather than re-arranging old prejudices. You are to be congratulated on the understandable presentation of these transportation facts."

"I have read with greatest appreciation your admirable issue on general railroad problems, which I think is a landmark in the discussion of railway questions. It is the finest thing of its kind I have ever seen and will be of immeasurable help in a general understanding of the subject."

From Railway Officers

Fully as gratifying to the publisher have been the enthusiastic letters received from railway officers and officers of railway supply companies throughout the country. The few which can be quoted here are duplicated by the score.

General superintendent—"I am unable to command language adequate to express my appreciation of this issue of the *Railway Age*. It is my judgment that the American railroads owe a profound debt of gratitude not only to you and your organization, but to the supplymen who have so generously co-operated to help the railroads in their fight for a square deal."

Executive vice-president—"I have just been looking over the December 3 issue, including both the articles and the advertisements. Taken together, they form an extraordinary exposition of the railroad situation. I do not know of any single volume in which so much reliable, interesting and usable information of a vital character about the railroads of the United States can be found. I shall read the issue thoroughly from cover to cover."

Superintendent of motive power—"The *Railway Age* has always been the foremost publication to champion the cause of the railroads and should have the whole-hearted support of every railroad man and railway supply man in the country."

Assistant to the president—"This edition is the finest thing of

its kind I have ever seen. I have already found the time to read about a dozen of the articles in it, and I am recommending that each of our officers personally preserve his copy until he has read it from cover to cover, and then save this particular issue as a reference work for future use."

Vice-president and general counsel—"Accept my warmest congratulations upon this really remarkable achievement. Whether they say so or not, I think that every railroad in the country should experience a renewal and increase of gratitude to you for this culmination of your long-continued fight in their behalf."

President—"It may interest you to know that it is the first magazine I have ever read from cover to cover, including all the advertisements as well as the articles. I liked every one of the 346 pages."

Vice-president and general manager—"This issue is indeed a masterpiece in every way—in conception, in general plan and in detail. I believe it will be a most important factor in winning the campaign to place the railroads on a sound footing."

Chairman—"I have critically examined the pages of this issue and I state positively that this copy of the *Railway Age* is the most remarkable production that has ever reached my desk. With 53 years of continuous railroad service, I have had the advantage of being in a position to judge the merits and demerits of railroad publications which have come and gone. The *Railway Age* stands out alone, in a class by itself."

From Officers of Railway Supply Companies

President—"You certainly have covered the situation thoroughly, and we are glad we had our advertisement appear."

President—"I wish that we could have been represented but, unfortunately, it was impossible for us to go along. But the time will come when, due to the devoted efforts of your organization, we will be back in your advertising pages, and thus find opportunity to serve our own interests and at the same time express appreciation of your courageous, impressive and effective campaign on behalf of the railroads and the railroad supply industry."

Advertising manager—"I wish to congratulate you and all concerned upon the very excellent issue of the *Railway Age* dated December 3. It was a most forceful presentation of the railway situation and a powerful argument for giving the roads a square deal. The case for the railroads is argued in the same straightforward manner, without any exaggeration. The advertisements are also of a high order, and I was especially interested in some of those presented by the roads themselves, which are highly informative and very well expressed. You have rendered a fine service not only to these industries, but to the entire country as well."

Director of public relations—"Here is a monumental contribution to the great industry of railway transportation. Surely the railways, the government authorities and the public are all in your debt for thus assembling this pertinent information on one of the greatest problems which faces the nation."

President—"The railway companies and the railway supply fraternity owe you a debt of gratitude for what you have done. Our regret is that circumstances prevented our sharing in the enterprise. Our hope is that better conditions will soon obtain which will enable us to make amends."

General manager, railroad department—"I want to congratulate the entire editorial staff on the marvelous work that you have accomplished in compiling such a comprehensive exposition of the railroad industry. One might term it an epic on transportation. I shall preserve my copy, as I believe it to be an historical milestone in the railroad business."

Newspaper Reaction

The reaction of newspaper editors to the message of the December 3 issue, and to the issue itself, was immediate and gratifying. The collection of clippings referring to the issue or its contents is still in its early stages, but up to January 16, clippings of this sort from 86 newspapers had been received. These newspapers represented a combined circulation of 3,679,406, and their publication offices are located in 29 states. These newspaper stories, the publication of which was insured by the distribution of the issue itself to many newspapers and by the even more complete coverage of newspapers through the press releases issued, are carrying the railway case to the general public in a way which it was not possible for the December 3 issue itself to do.

The variety of the material in the December 3 issue which newspaper editors saw fit to reprint is unusual. Many abstracted the feature articles, while even more reproduced the six salient facts upon which the demand for railway relief was based. Others quoted extensively from the articles especially interesting to them on account of local conditions, this being particularly noticeable in the case of newspapers published in localities affected by inland waterway development. A number quoted certain of the advertising pages almost in full. The Dunkirk, N. Y., Observer and the Lima, Ohio, Star reproduced portions of the advertisements of the American Locomotive Company and the Lima Locomotive Works, respectively, while the Michigan City, Ind., Despatch mentioned the Pullman Car & Manufacturing Company and the Standard Steel Car Corporation; the Watertown, N. Y., Times quoted from the New York Air Brake Company message, and the Rochester, N. Y., American repeated part of the messages of the Garlock Packing Company, the General Railway Signal Company and the Union Switch & Signal Company. The Chicago, Burlington & Quincy and the Chicago & Eastern Illinois statements were quoted by the Galesburg, Ill., Register-Mail and the Danville, Ill., Commercial-News, respectively.

Editorial Comment

Although a few of the editorial comments were unsympathetic in nature, the great majority reflected an editorial attitude favorable toward the railway cause. Admiration for the way in which the railway story was presented was generally expressed.

A few of the editorial comments, typical of most of the others, were as follows:

Cleveland, Ohio, News—"The December issue of the *Railway Age* is unique in journalism in that most of the advertising as well as the editorial pages carry a single theme—the peril to the nation in the economic problems confronting transportation."

Rock Island, Ill., Argus—"One of the finest expositions of the railway situation it has ever been our privilege to read is given in the December 3 issue of *Railway Age*. It is just what it purports to be, a 'vital message to legislators, regulatory authorities and to the public.' All phases of the railroad situation are discussed in this splendid issue, including the causes of the plight of the railroads and the remedies which must be applied. It is a veritable encyclopedia of information."

DeKalb, Ill., Chronicle—"A strong case is made for the relief of the railroads in the current issue of the *Railway Age*, which is a most unique publication. The series of articles set up a long list of items, and is a most interesting one. As soon as we have digested the issue, we may be able to shed some light on the problems considered."

Mobile, Ala., Register—"The *Railway Age* for December 3 contains 346 pages and is filled with useful and enlightening information about the railroads of the country and the importance of the problems now facing these great carriers. No problem now before the American people and government is more important than the railroad problem. The special issue of the *Railway Age* brings out many facts that will help to a better understanding of the railroad problem. It is a useful number and reflects credit upon the editors. It will do a lot of good, too, for the contributors to this unusual number of the *Age* are men of high capacity, who know what they are writing about and speak with the background and wisdom of experts."

New York World-Telegram—"That the railroads are taking their problems to the public in a big way must be obvious to everyone by this time. But should there be anyone who doubts that such is the case, a perusal of the December 3 issue of the *Railway Age* should furnish the final proof of the statement. This special issue undoubtedly is in a class by itself. It contains nearly 250 pages of advertising, virtually all of which constitutes an appeal to national, state and local legislators and to the public at large for a better 'break' for the railroads in one way or another. No industry, probably, ever got behind a movement in such impressive fashion, and the manner in which the fight is being conducted blazes new trails in organized corporate effort."

Chicago, Ill., Commerce—"For the case of the railroads, seize upon the December 3 issue of the *Railway Age*. Contents, extraordinary in scope and authority; advertising, abundant; readability, superior."

Oppose Pension Legislation

Railways make specific objection to Wagner and Hatfield bills

WASHINGTON, D. C.

LEGISLATION providing for the compulsory establishment of a system of pensions or retirement-insurance for railway employees, such as that proposed by the Railway Labor Executives' Association and the Railroad Employees' National Pension Association in the rival bills introduced by Senators Wagner and Hatfield, was opposed by witnesses representing the Association of Railway Executives at the hearing before a sub-committee of the Senate committee on interstate commerce, which began last week.

The general position of the railways was stated by Frank V. Whiting, general claims attorney of the New York Central Lines and chairman of a Committee on Pensions appointed by the Association of Railway Executives, who expressed opposition to "legislation on this subject" as well as to specific provisions of the two bills. He was followed by Dr. Julius H. Parmelee, director of the Bureau of Railway Economics, who submitted statements as to the present financial status of the railways "to indicate that the railway industry is in no position to have any new financial burdens added to its present and current obligations."

The railroad committee came into existence, Mr. Whiting said, in this manner: It was provided in the agreement between the railroads and the railway labor organizations, under date of January 31, 1932, incident to the wage conference, that the subject of a retirement insurance plan should be submitted for study by a committee representative of each of the parties. There had been a committee of the Railway Labor Executives' Association studying the subject of pensions for some time prior to that and upon the appointment by the Association of Railway Executives of its Pension Committee, an effort was made to bring the two committees together in accordance with the understanding. However, before this was accomplished, Senate Bill 3892 sponsored by the Railway Labor Executives' Association, was introduced in the Senate by Senator Wagner on March 2, 1931.

Aggregate pension payments to those who could retire in the first year under the Hatfield bill were estimated at $3,112,000,000.

Summarizing the objections to the bills, Mr. Whiting said that they are of such a character that in order to provide adequate funds to meet the stated benefits "a stupendous economic burden would be placed upon the carriers and the employees" and that "the addition of this burden to the present obligations of the carriers might well place their solvency in jeopardy," He also said:

1. In our opinion, Congress is without constitutional power to impose compulsory pension legislation on the carriers or the employees.

2. There is no warrant for legislation providing for a national railroad pension plan. The relationship of carriers and employees in the matter of pensions should be on an individual basis as to units or systems of carriers and their employees.

3. Neither of these bills is financially sound. In the case of the Hatfield bill, the plan is not only unsound financially but, as Mr. Breiby has pointed out, it is unsound actuarially. As to the Wagner bill, the proposed rates of contribution are inadequate to provide the benefits, which we regard as excessive.

4. We have submitted testimony showing the financial condition of the railroads by years from 1921 to 1931, inclusive. In 1931 the net income, after fixed charges, amounted to $134,761,000, but in 1932, as testified by Dr. Parmelee, there was no net income for the carriers as a whole; in fact, there was an actual *net deficit* of some $150,000,000 in meeting the fixed charges. Of course, wages must be paid, and if we are to have a pension law for employees the pensions will have to be paid regardless of whether or not security holders and other creditors of the carriers are paid their just dues. The stockholders, as owners, are entitled to a reasonable return for the use of their properties. Under present conditions, many of them are as much in need of a return on their stock as the employees are in need of a pension.

Entirely apart from any question of constitutionality or unconstitutionality of the bills, irrespective of the wisdom or unwisdom of employees' retirement insurance or pensions as a governmental policy, and regardless of the merit or lack of merit of our opposition to certain other important particulars of the bills, the practical question, transcending every other consideration having a bearing on these bills, is the cost. In the face of the present financial condition of the carriers, we submit that it would be simply inviting disaster to place upon them at this time such a large increased burden as the enactment of either of these bills would do.

This was to be followed by a statement by S. T. Bledsoe, general counsel of the Atchison, Topeka & Santa Fe, a member of the railroad law committee.

This was followed by detailed testimony to show the unsound character of the plan proposed in the Hatfield bill and the very large expense that would be imposed on an industry now "in the red" by either of the two bills. Particular objection was made to the Hatfield bill, on the ground that it sets up no reserves for the future and imposes a constantly increasing expense upon both the railroads and their employees, while as to the Wagner bill it was stated that the percentage rates of contribution proposed, under which it was estimated that the employees and the companies would each contribute about $100,000,000 a year, are totally inadequate and would have to be increased from 23 to 45 per cent, depending on the interest rates it is assumed the reserve fund would earn. The cost under tthe Hatfield bill was estimated at $135,000,000 for the railroads and $65,000,000 for the employees for the first year, increasing to $348,909,000 for the railroad and $149,533,000 for the employees by the twentieth year.

Rival Bills Compared

The railroad testimony was given after the rival plans had each been subjected to critical analysis by Donald R. Richberg, counsel for the Railway Labor Executives' Association, and Herman L. Ekern, representing the Railroad Employees' National Pension Association, and by actuaries representing the two associations. It was made easily apparent why a large number of railway employees prefer the plan of the Hatfield bill, which imposes two-thirds of the cost upon the railroads and only one-third on the men, whereas the Wagner bill provides for equal payments. The Hatfield bill also proposes that all the payments collected shall be paid out currently, to retire at once the men of age 65 or more as well as those under that age who have had 30 years' service and who desire to retire, although they would have made no contributions for the past, while under the Wagner bill most of the contributions at the start would go to built up gradually a reserve fund for retirement insurance. The contributions to be made by the employees would also be

less at first under the Hatfield plan, while the pension payments would be greater.

Mr. Richberg insisted that such a plan would break down of its own weight in time without having accumulated any insurance fund for the future. He said those who have been attracted to it, and who have been bombarding Congressmen with postcard endorsements of it, do not understand the differences between the two bills and think it more liberal to them at the expense of the railroads. Mr. Ekern insisted that the plan is perfectly sound and safe as long as it remains in effect because it would be compulsory on all railroads and employees, and while he admitted that a reserve fund plan would be preferable, if practicable, he said it would be impossible to provide an adequate sum to start on that basis. Mr. Ekern said that the big advantage of the Hatfield bill is that it provides for the retirement of superannuated employees at once and creates an opportunity for the employment of a large number of younger men because six months after the taking effect of the act, when payments would begin, there would be an accumulation of two quarters' contributions.

He frankly admitted that it is intended to provide a "pay as you go" plan, and that it is not intended to set up any reserve whatever. Under all contributory plans he knew of, he said, the prior service pension is paid wholly by the employer, and under the plan proposed the big payment to be made at first is for prior service and should be borne largely by the railroads.

Estimates of First-Year Cost

In explaining why it had been considered impracticable to adopt the reserve fund plan Mr. Ekern said that to provide for an annuity of $100 a month it is necessary to have a fund of roughly 10 times $1,200 earning interest. Obviously, he said, under the Wagner bill there would be no such sums for many years to come with which to retire the prior service employees, and to pay to the 60,000 men of age 65 or over two-thirds of $1225, or $816, would require about $489,000,000 immediately. Total collections for the first year under the Wagner bill on the basis of 1,225,000 employees he estimated at from $184,000,000 to $195,000,000, and he said this would leave a surplus of about $132,000,000 after paying out something over $52,000,000. Under the Hatfield bill his estimate was that $77,000,000 would be paid out immediately to retire those of 65 years and over, and that the total for the first year would not exceed $200,000,000 if all of the 110,000 more with 30 years of service were to be retired. Of this the railroads would pay $134,000,000 while the employees would pay $66,000,000. He said that of course all would not retire.

When he said "the money simply isn't there to set up any adequate reserve fund for many years to come," Mr. Richberg interrupted to point out that there is a difference between setting up a system which will build up an adequate reserve and setting it up all at once.

Mr. Ekern replied that it is for Congress to decide how much of a burden may be imposed at the start. The Wagner bill defers the retirements for a while, he said, but with the condition of the industry as it is and wages being cut he expressed the opinion that it would be better to take $77,000,000 to retire those over 65 at once rather than attempt to start a reserve for the future. Mr. Richberg said that at the end of ten years the men who have contributed might be left "holding the bag" with nothing coming to them, and if there should be a further decline in employment the assessments would be increased. Under the Wagner bill a man would be accumulating something for himself instead of paying it all in for the benefit of someone else. Mr. Ekern retorted that under the Wagner plan it is proposed to borrow from the insurance fund for the prior service pension fund and that it would be a long time before it could be transferred back.

The objection to a reserve fund, Mr. Ekern said, is the additional amount of money required. If the money could be provided within the ability to pay it would be highly desirable to have a reserve and later, if it becomes possible to establish a funding plan, it would be within the jurisdiction of Congress to do so. He said the railroads have been paying in dividends sums which might have been used to accumulate reserves and "the cream has been skimmed off" so that now it seems that the best way is to use the funds available and assume that the industry is permanent and that the plan will be permanent. It would be simple for Congress later to adopt a plan of step-up contributions to fund prior service reserves.

Mr. Ekern said that the pension association publishes a monthly journal, of which from a quarter to a half a million copies are distributed, which has described and discussed the two bills in detail, and that "there is no misunderstanding about it. The men are willing to take their chances on this plan being permanent and to make their current contributions for the benefit of the industry. There is a big difference between paying one-third of $77,000,000, or $26,000,000, and the $90,000,000 or $95,000,000 which the Wagner bill would require for the first year, for the retirement of those 65 and over."

Mr. Ekern also pointed out that under the Wagner bill the amount of the pension for the older men is computed on their pay for a single year in which there has been a 10 per cent cut and in which perhaps some have been carried at a lower rate of pay, whereas the Hatfield bill provides for a pension based on 2½ per cent, for each year of service, of the average monthly compensation received during any 20 months selected by the employee from any consecutive 120 months of service; not to exceed 75 per cent of such average. Also the 75 per cent is to be reduced by 4 per cent for each year the employee is less than 60 years of age at the time of retirement after 30 years of service.

Mr. Richberg said that the Wagner bill provides for a prior service pension on the basis of 1 per cent for each year of service, limited to 50 per cent of the last year's salary, but that it was open to debate as to whether some other basis should not be used because it would be unfair to base a pension for a life-time of service upon the effect of a depression.

Mr. Ekern also said that "one of the sad things about the Wagner bill is that it makes no provisions for the man who enters the service at the age of 55 years or later," while the other side retorted that his plan includes no death benefit.

Application To Supplemental Forms of Transport Proposed

Senator Glenn, of Illinois, asked if, in view of the possibility so often discussed that railroad employment may continue to decline, any consideration had been given to making the plan broad enough to include whatever form of transportation may survive. Mr. Ekern said there would be nothing to prevent Congress from including any form of interstate transportation but that it would be practicable to go on the assumption that the railroads are permanent and that the shrinkage would not be so great as to destroy any plan.

Mr. Richberg said that, although he had expressed the opinion that railroad employment may decline further, he believed it could be recognized that transportation cannot decline, although there may be a shifting of the forms of transportation. He believed the railroads would necessarily expand into motor service and develop

a co-ordinated system of transportation and for that reason it had been thought desirable to include supplemental forms of transportation in the bill. He thought conditions were likely to get worse and that "we are attempting a sufficiently difficult thing to establish a pension system at all, but it would be even worse to figure on a system the first result of which would be that all the money would go out." Mr. Richberg said that to permit the retirement of men after 30 years of service, often at less than 55 years of age, to replace them with younger men, would not improve the employment situation but would increase the burden on the railroads of taking care of them. Mr. Ekern contended that to replace the older men with younger ones would be an advantage to the railroads from the standpoint of safety and efficiency.

Disbursement Basis Called "Anachronism"

Henry R. Corbett, consulting actuary, who had worked out the actuarial computations on which the percentages in the Wagner bill are based, assured the committee that they were sound and provided for an adequate margin of safety, but said he was greatly concerned about the soundness of the Hatfield bill or any plan based on the disbursement basis, because the cost "may grow like a rolling snow-ball," since there are to be more pensioners as the years go by, and increase to an impossible load in the next generation. He said that, taking the payment for 1911 as 100 per cent, the pension cost of the New York Central had increased to 621 per cent in 1930, that of the Pennsylvania to 758 per cent and that of the United States Steel Corporation to 1549 per cent. While other factors may have influenced the increase, a long series of such plans shows invariably that the principal element is the inevitable increase in the number of men of pension age. Asked why such a plan was ever adopted, he said that the matter was not fully understood at that time but that today actuarial science is fairly well understood and that adoption of a disbursement basis now would be "an anachronism of the first order."

Mr. Corbett said there is an accrued liability now for the older men which should have been provided for years ago but since it was not it is now necessary to differentiate between the older men and those who will hereafter make contributions to the fund. Since it is impossible to pay now for the past without imposing such a cost that railroad rates could not be made high enough to pay it, it is necessary to make some compromise, as in the Wagner bill.

Senator Wheeler and Mr. Ekern took the position that the conditions which caused the failure of the assessment plan of insurance would not apply to the railroad industry because after a time the retirements would be fairly regular. Mr. Corbett replied that there are conditions that postpone the evil day of reckoning but in his opinion they do no more than postpone it, and the requirement cannot be financed without a reserve. Under the Hatfield plan, he said, every dollar goes to pay accrued liabilities with no provision for the future.

Explaining the step-rate plan of assessments he said that a man is really taking on more retirement insurance all the time, and since the younger men are more averse to paying premiums and since the normal and natural method is to use step-up rates the Wagner bill provides that the young man shall begin by paying 2 per cent and gradually increases it to 5 per cent, which seems to be as high as practicable. He said that Mr. Whiting takes the position that the contributions would not be 50-50 because the employee gets his money back but he insisted that the sacrifice made by the man is the same as that made by the railroad. Mr. Whiting replied that the railroad never gets its contribution back, whereas for the employee the plan represents merely the setting up of a savings account from which he eventually gets back what he has virtually loaned.

Mr. Bledsoe asked if the employee might not, under the plan for a surrender value, draw out what he had paid with 3 per cent interest, and also be relieved of any of the cost of administration, although the fund, invested in government securities, might yield less than 3 per cent. Mr. Corbett replied in the affirmative but Mr. Richberg said that it is necessary to go by experience which indicates that more than 3 per cent would be earned.

Mr. Bledsoe asked why the interest should not be the amount actually earned. Mr. Corbett said there would be no objection in principle but that it would add complications. He said it would not be necessary to create an enormous bureau in Washington and that the cost should be reduced by a plan of decentralization, under which branch offices could be established on each railroad or division at little or no added cost. He also wanted to forestall the effect of "certain startling figures" as to liabilities that the railroads might present, saying that there is no point in calculating that the present value of certain pensions will be an "astronomical figure," because payments will be made year by year. While there had been some difficulty in getting figures for past service where a man has worked for more than one road he had received figures for prospective retirements for 129 Class I roads and believed the rates in the bill would be sufficient. The question of whether a factor of safety is needed is answered by the provision for borrowing from the retirement insurance fund for the prior service pension funds. The liability under the Wagner bill would be much less than that under the Hatfield bill, he said, and somewhat less than that estimated by Mr. Ekern, while it would be very much less than the contingent liability under the Hatfield bill.

When Mr. Bledsoe asked the amount the carriers would be required to pay for a year or a ten-year period under the Wagner bill, Mr. Corbett said that it would be about 5 per cent of the payroll, 3½ per cent for the retirement insurance fund and 1½ per cent for the prior service pension fund, or about $100,000,000 if the payroll were $2,000,000,000.

Estimates of Cost

Mr. Corbett estimated costs and pension payments under the two bills for the first and tenth years as follows: First year—Wagner bill: Income, $200,000,000; pension payments, $22,000,000. Hatfield bill: $75,000,000 minimum to $225,000,000 maximum income and disbursements. Tenth year—Wagner bill: Income $200,000,000; pension payments, $125,000,000. Hatfield bill: $375,000,000 to $1,125,000,000 maximum income and disbursements.

Different estimates of income and disbursements under the Hatfield bill were given by Charles E. Brooks, Madison, Wis., consulting actuary for the Railroad Employees National Pension Association. For the payment of pensions at the completion of 30 years of service or upon reaching age 65 he gave the following figures: First year, $202,031,000; fifth, $228,030,000; tenth, $276,390,000; fifteenth, $217,425,000; twentieth, $289,587,000.

A. D. Cloud, editor of Industrial Relations Magazine, estimated the maximum cost under the Hatfield bill to be $193,000,000 for the first year; $335,000,000 for the tenth, and $462,000,000 for the twentieth. He criticized

the provision permitting retirement at the completion of 30 years' service, stating that 6 per cent of all employees would be eligible for retirement now and 89 per cent would be pensionable before attaining age 65. "I am in favor of an adequate pension for every superannuated employee," Mr. Cloud said, "without a fixed retirement age," pointing out that some men over 65 are still well fitted for daily work. He expressed the hope that the carriers and employees "can get together on a sound plan" without legislation except as a last resort.

[*A report of additional testimony concerning national railway pension legislation, as presented to the subcommittee of the Senate committee on interstate commerce will be published in the next issue of the Railway Age.*—EDITOR.]

Power Reverse Gear Required by I. C. C.

WASHINGTON, D. C.

A FINDING that the safety of employees and travelers on railroads requires that all steam locomotives built on or after April 1, 1933, be equipped with a suitable type of power-operated reverse gear was announced by Division 6 of the Interstate Commerce Commission, Commissioners Eastman, McManamy and Lee, on January 18 following an investigation held on a complaint filed by the Brotherhood of Locomotive Engineers and the Brotherhood of Locomotive Firemen and Enginemen. It was further found that all steam locomotives used in road service built prior to April 1, 1933, which weigh on driving wheels 150,000 pounds or more, and all used in switching service which weigh on driving wheels 130,000 pounds or more, shall have such power-operated reverse gear applied the first time they are given repairs of Class 3 or heavier, and that all such locomotives shall be so equipped before January 1, 1937. The division further found that air-operated power reverse gear should have a suitable steam connection so arranged and maintained that it can be quickly used in case of air failure. This was accompanied by an order amending the rules for the inspection and testing of steam locomotives and tenders and their appurtenances to give effect to the findings. Following are extracts from the report:

The carriers contend that our rules, approved and established under this act, can be changed only upon their application, and that the public, the employees, and the commission itself are powerless otherwise. They urge that the only instance in which we have authority to require the installation of additional equipment is when upon appeal from the decision and notice of an inspector, as provided in section 6 of the boiler inspection act, that a particular locomotive does not conform to the requirements of the law and shall not thereafter be used because of the absence of the additional equipment we sustain such decision. We find no basis for such a view in the language of the boiler inspection act or the decisions of the courts relating thereto. This contention can not be sustained.

While certain accidents are now attributed by defendants to the fact that the locomotives were equipped with power reverse gear, it is significant that in no case was the power reverse gear removed after the accident and hand reverse substituted. The locomotives involved, if in use, are still equipped with power reverse gear.

The record shows that during the 5-year period from 1925 to 1929, inclusive, there were 1,116 casualties due to reverse gear. The proportion of such casualties occurring on locomotives equipped with hand reverse gear is illustrated by the fact that of 232 cases occurring in 1929 and 1930 a total of 216 occurred on locomotives equipped with hand reverse gear and 16 on locomotives equipped with power reverse gear. During the latter period there were about the same number of locomotives in service with power reverse gear as with hand reverse gear.

Defendant carriers urge that the equipment of locomotives with power reverse gear does not eliminate accidents and that the power reverse gear has not been applied with the thought of promoting safety. As explained by the carriers, the application of power reverse gear has been due to the increasing size of locomotives and because the limited clearance between the boiler and the side of the cab renders it impracticable to apply hand reverse gear. The carriers urge that in several respects power reverse gar is more hazardous than hand reverse gear.

Defendants state that the average cost of equipping a locomotive with power reverse gear would be approximately $400, and that the power reverse gear is more expensive to maintain than hand reverse gear. Complainants urge that this expense would be offset by increased efficiency obtained from the locomotive, due to faster operation being possible with power reverse gear than with hand reverse gear. Defendants urge, on the contrary, that due to what is generally termed "creeping" of the power reverse gear, it is less efficient than hand reverse gear. The term "creeping" refers to movement of the reversing mechanism as well as the valve gear without the operating lever in the cab having been adjusted, which causes an undesired change in the point at which the admission of steam into the cylinders is cut off. The thought is that the "creeping" makes it difficult to use steam in the most economical manner, which results in unnecessary fuel consumption.

Clearly the carriers of this country would not have equipped approximately 29,000 locomotives with power reverse gear, and would not contemplate so equipping practically all new locomotives, if such gears did not contribute to efficiency of locomotive operation, or if power reverse gear is less safe than hand reverse gear. The fault termed "creeping" causes no accidents and resolves itself largely into a question of proper maintenance. If the power reverse gears are properly maintained, we think "creeping" to any material extent will be eliminated. Witnesses for the carriers, who were asked the question, were firm in their opinion that we should not require power reverse gear to be removed from present locomotives and hand-operated gears used in lieu thereof.

Defendants urge that the carriers generally are in such financial condition that they should not be required to make the expenditure necessary to apply power reverse gears.

As a practical matter we are, in the main, looking to the future in the consideration of this case. The rule established herein with respect to locomotives now owned by the carriers is that those having more than a specified weight on driving wheels be equipped with power reverse gear when they are shopped for class 3, or heavier, repairs. Our last annual report shows that there were at that time 9,840 locomotives stored in serviceable condition and 6,442 others out of service undergoing or awaiting repairs. A large percentage of these locomotives is equipped with hand reverse gear. Whatever expense results from these applications will be distributed among a large number of carriers and spread over a period of approximately four years. A large number of the locomotives equipped with hand reverse gear are now set aside awaiting disposition and will never again be used. Many of the locomotives in service with hand reverse gear will be dismantled before they are again given class 3, or heavier, repairs.

To draw a line of demarcation which will provide the degree of safety contemplated by the law and yet not cause unnecessary expense on the part of the carriers is not easy. While the accident records do not in all cases show the size of the locomotives on which accidents have occurred, they do indicate that the greater number occurred on the heavier types. Nor are we unmindful of the financial condition of the carriers, which was strongly urged as a reason for denial of the relief here sought. But we cannot believe the present financial condition will be permanent and we are convinced that action should now be initiated to afford relief in the future from the conditions complained of.

PREFERENCE IS TO BE GIVEN to construction of Argentine roads providing access to railway stations, those which radiate from ports and to those connecting important cities and centers of production, co-ordinating as far as possible highway transportation with water, rail and air, in the carrying out of the trunk highway system provided for under the National Highway Law to be effective January 1, 1933, according to the Bureau of Foreign and Domestic Commerce.

NEWS

I. C. C. Steps Over State Long-and-Short-Haul Rule

Order holds that Pennsylvania law causes discrimination against interstate commerce

Finding that the maintenance of intrastate class rates in Pennsylvania on the basis required by the long-and-short-haul provision of the state constitution and by the state public service company law causes undue, unreasonable, and unjust discrimination against interstate commerce, the Interstate Commerce Commission has issued an order requiring the removal of the discrimination by the establishment of intrastate rates in Pennsylvania which will be not lower for corresponding distances than the interstate class rates prescribed in the Eastern Class Rate Investigation for application between points in the state and points outside. Commissioners Farrell, Lee, McManamy and Mahaffie dissented.

An investigation of the class rate situation in Pennsylvania was undertaken by the federal commission, on petition of the carriers, as a result of the complications produced when the railroads tried to apply the Eastern class rate scales which became effective on December 3, 1931, in the various states.

"There is no gainsaying," the commission said, "that neither the Pennsylvania laws nor the decisions of its courts or regulatory authority directly require maintenance of any particular level of intrastate class rates. Nevertheless, in combination with other factors the Pennsylvania long-and-short-haul provisions do exercise a dominant influence on the general level of the intrastate class rates and the operation of those provisions must be viewed in their practical aspects. Pennsylvania is an integral and important part of trunk-line territory because of its geographical position, the situation of its principal cities, and the magnitude of its industrial development. It is hardly possible that a basis of class rates applicable to its intrastate commerce differing materially from the interstate basis could be maintained without substantial hardship and inconvenience to its citizens as well as those of surrounding States, and at no time either in this proceeding or in the *Eastern case* has there been any contention to the contrary. Recognizing this fact, respondents undertook to establish intrastate rates determined in exactly the same way as the interstate rates. If they had used a higher basic scale than that prescribed in the *Eastern case* or a different distance rule, it is a certainty that determined protest from shippers would have resulted. But, as we have seen, the State long-and-short-haul rule permits the maintenance of rates as high as the interstate level, voluntarily adopted by the carriers for intrastate application, only when the movement of traffic is rigidly confined to the short-line rate-making routes. In a State which ranks second in population and manufactures and third in railway mileage it is apparent on the face of things that some multiplicity of routes would be desired by both shippers and carriers, as shown in this proceeding. Yet the Pennsylvania laws penalize the maintenance of additional routes by forcing reductions in rates below the level prescribed by us for interstate application. It is perhaps to respondents' credit that they have chosen to diversify their routes even at the expense of revenue, but this price they should not be required to pay. The inevitable effect is that they do not receive compensation for intrastate business reasonably proportionate to that for interstate business, and there is an undue limitation of the earning power of the interstate commerce system in doing State work. It was such limitations as these which the Congress aimed to prevent in the enactment of section 13(4) of the interstate commerce act, directing us to prescribe rates for intrastate application to remove undue prejudice and discrimination to be observed by the carriers affected, 'the law of any State or the decision or order of any State authority to the contrary notwithstanding.'

"That the Pennsylvania constitutional provision is a law within the meaning of the language above quoted has been tacitly conceded by everyone participating in this proceeding, and the validity of this assumption is scarcely open to question. In proceedings of this kind it is the effect of the State regulation in question on interstate commerce which must be considered and not the form of that regulation. Nevertheless it is not inappropriate to observe that methods of common carrier regulation have widely changed since 1873, when the people of Pennsylvania considered it desirable to incorporate a rigid long-and-short-haul provision in the fundamental law of their State, and practically all the other States have recognized the advantage of flexibility in provisions of this kind."

Bill to Prevent Thefts from Interstate Trains Passed

One piece of railroad legislation was passed this week by both the House and Senate. It is S.4095, to bring within the federal laws provisions for penalties for stealing from interstate trains, both freight and passenger, including the taking of money from passengers by card sharks in fraudulent games.

Truck Regulation Bills Filed in Massachusetts

Railroads among sponsors of laws designed to equalize all transport agencies

Truck and bus legislation designed to equalize the regulation of freight and passenger business on the public highways with that on the railroad, and to "lessen the opportunity for unfair competition on the public highways" has been introduced in the Massachusetts legislature.

One regulatory bill, sponsored by the Boston & Maine, the New York, New Haven & Hartford and the Boston & Albany, and six other bills which the railroads announced they would support, were filed. The various bills cover a variety of regulatory measures.

None of the bills, it was pointed out, affects the private passenger automobile or the truck of two tons or less capacity, used in the business of the owner. Trucks operating exclusively within the limits of a single city or town, or within 10 miles of the limits thereof, are also exempt. All of the bills are designed to affect only motor vehicles using the public highways for profit in the transport of freight and passengers.

The bill sponsored by the railroads provides for the regulation of trucks transporting property for hire. It provides that common carrier trucks cannot operate unless they secure a certificate of public convenience and necessity from the Department of Public Utilities and that they must file with the department and observe their schedule of rates. Under the bill, truckmen transporting property for hire but not as common carriers, must secure a permit from the Department of Public Utilities and file schedules of rates; and the Department of Public Utilities would have the right to prescribe rates which shall not be less than the rates of the common carrier truckmen. Also, contract truckmen would be prohibited from charging less than the rates so filed or prescribed. The bill further provides that truckmen using Massachusetts highways for interstate transportation, must secure a permit from the department, but such permits are to be issued as a matter of course unless the department finds that their operation will endanger the safety of the other users of the particular highways.

The bill protects the truckmen now in business in that it provides that common carrier truckmen shall receive certificates from the department as a matter of course

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New York-Philadelphia Electric Service Started

Pennsylvania inaugurates operations with initial schedule of four daily round trips

Electric passenger train service between New York and Philadelphia, Pa., was inaugurated by the Pennsylvania on January 16 when the 9 a. m. train for Philadelphia, drawn by an electric locomotive, left Pennsylvania station, New York. The first electric train on the run from Philadelphia to New York left Broad Street Station, Philadelphia, at 1:00 p. m. the same day. Appropriate ceremonies, in which Mayor John P. O'Brien of New York and Mayor J. Hampton Moore of Philadelphia participated, marked the respective train departures on these inaugural runs.

Initial electric train service consists of four daily round trips. It will be increased, gradually, until the entire schedule of trains between these two cities is electrically operated. For this purpose, 12 modern electric locomotives will constantly be in use. At present, no change in the schedules of trains will be made.

Announcement was also made on January 16 by M. W. Clement, vice-president of the Pennsylvania in charge of operation, that the through trains between New York and Washington, D. C., will begin running under electric power as far south as Wilmington, Del., some time in March. The change of locomotives will be made at Wilmington while the trains are making the station stop.

Simultaneously with this change, these trains will be routed through the new main Philadelphia station on the west bank of the Schuylkill river. Work is being pushed to completion on a portion of the station—for the accommodation of Philadelphia passengers using these trains to and from New York, and also to and from Baltimore, Md., and Washington. This section of the station proper will have been completed by that time and will be used in conjunction with the present facilities of the suburban portion of the station, temporarily known as Thirtieth Street station. When this electric service is inaugurated, the old West Philadelphia passenger station will be abandoned.

Trains between New York and the West, which make the Philadelphia stop at North Philadelphia station, will be changed to operate electrically in April. The change of motive power will be made at Paoli, Pa., on the main line, where work is now actively under way on new track layouts and other facilities necessary for the purpose.

A grand total of 72 electric locomotives will be required to handle this complete electric passenger service in the Wilmington, Paoli, Philadelphia-New York territory. Practically all of them have been delivered and are now receiving the required road tests before being placed in regular service.

Suburban trains of the multiple-unit type will continue to be operated between Philadelphia and Trenton, N. J., and between New Brunswick, N. J., and New York and Jersey City, N. J. The Pennsylvania now has under electric operation over 1,450 miles of track.

Inauguration January 16 of electric train service between New York and Philadelphia marks the completion of an important portion of the $100,000,000 electrification program, announced by General W. W. Atterbury on November 1, 1928, to cover both passenger and freight train service at the Pennsylvania's eastern terminals. The work is being carried out over a period of years. It will embrace, in its entirety, all train service, both freight and passenger, between New York, Philadelphia, Baltimore and Washington.

Burlington Rail Motor Car Accident

Four trainmen were killed and 28 passengers were injured on January 12 in a rail motor car collision on the Chicago, Burlington & Quincy about 1½ miles north of Donnelley, Iowa. The southbound train, No. 28, consisting of a rail motor car and a mail car was being drawn by a steam locomotive following a failure occurring in the rail motor car on the previous day and was seven minutes behind schedule. Under the time table which has been in effect for a number of years between Ottumwa and Des Moines, northbound train No. 179 and southbound train No. 28 meet at Donnelley at 7.13 p. m. On January 12, train No. 179 ran by the station and after crossing a wooden trestle over White Breast creek, collided with train No. 28. The latter, being a heavier train, forced train No. 179 back on the trestle. The gasoline from the fuel tanks set fire to the trestle and the cars, which were destroyed, with result above noted.

The Constitution and Interstate Commerce

"It is extremely unlikely that any of the men who in 1787 drafted the Constitution, and its commerce clause, had at that time even so much as dreamed of railroads operated by steam power. Therefore, when they empowered Congress to regulate commerce between the States they must have had in mind its regulation by the only channels through which it was then possible to carry on interstate commerce—namely, the highways and waterways. Yet, after the lapse of one hundred and forty-five years, we find this truly remarkable situation: Congress to this day has neglected entirely to exercise its Constitutional power to regulate highway transportation. Its regulation of water transportation is so nominal and ineffective as to be practically non-existent. Yet it has elected to regulate to the last detail, and in many respects almost oppressively, the activities and the services of the steam railroads, which did not exist even in imagination when Congress was given its grant of power to regulate interstate commerce."

—From an address by C. B. Sudborough, Vice-President, Penna. R. R.

Motor Men Misrepresent Rail Program, says Dunn

Automotive spokesmen realize that otherwise they would have no effective argument

"The program of the railways for equalizing government treatment of the railways and other carriers is being so widely, persistently and grossly misrepresented by many spokesmen for the manufacturers and operators of motor buses and trucks as to indicate they realize that they have no effective argument against the railroad program that is not based on misrepresentation," said Samuel O. Dunn, chairman of the Simmons-Boardman Publishing Company and editor of the *Railway Age*, in an address on January 18 at the annual convention of the Northwestern Lumbermen's Association.

"One of the misrepresentations constantly disseminated is that the railways are seeking increased 'taxation' of all motor vehicles, including private passenger automobiles and light trucks. This assertion is untrue and is so often made for the obvious purpose of arraying owners of private automobiles and small trucks in support of those who operate large buses and trucks upon the highways in rendering commercial transportation for their own private profit.

"The railroad program was recently presented definitely and in full to the National Transportation Committee, of which the late former President Coolidge was chairman. There is nothing whatever in it that would affect owners of private automobiles or light trucks, excepting favorably by increasing safety upon the highways.

"The railroad program deals solely and exclusively with those who use the public highways to carry on commercial transportation for private profit. It proposes the adoption of, roughly, three policies.

"First. It proposes that all national and state subsidies shall be withdrawn from those who operate commercial buses and trucks for their own private profit by requiring them to pay charges for their use of the highways that will defray all the costs that their use of the highways now causes the general public. This is not, as is constantly represented, a demand for increased 'taxation.' All taxes are now too high and should be reduced, but a charge for private use of a highway or any other kind of public property is not a tax, but a rental. To compel those who use the highways for commercial transportation for private profit to pay adequately for such use will provide increased revenues which will make it possible to reduce the taxes now collected by our local and state governments upon real estate, other property and incomes.

"Second. The railways ask that those engaged in commercial transportation upon the highways for their own private profit shall be—as the railways now are—subjected to regulation of their equipment, operation, service and rates. Such regulation is needed to promote public safety upon the highways, upon which about 34,000 people are being killed and one

(Continued on page 87)

Now Is Time to Revamp Transportation Structure

Government aid, not public ownership, will bring solution, says M. W. Harrison

Never was the time more appropriate than now to revamp the transportation structure along economic lines and to prepare it to meet public demands for service which are sure to come with any reasonable return of normal conditions, said Milton W. Harrison, president of the Security Owners Association, in his "Approaching a Solution to the Railroad Problem" address before the Traffic Club of New York on January 12. Government ownership, as a solution for the difficulties which the railways now face, Mr. Harrison warned, carries no promise of public benefit whatsoever. He rather suggested a solution based upon continued government assistance and orderly reorganizations where such are necessary.

Continuing, Mr. Harrison said in part:

"The railroad problem has now grown to such proportions that it no longer concerns only those who own and operate the properties; it now looms as a national issue of grave concern to every citizen.

"Aside from objections to government ownership which follow the form of government we have in this country, there are certain other very practical objections which make it wholly impracticable. In the first place, the government could not take over the railroads without compensating the owners duly therefor. The present state of the federal treasury would hardly permit of this added burden of debt.

"In the second place, the states would be deprived of what is now the most abundant yet certain source of revenue, excluding, of course, motor vehicle taxes, which I do not consider taxes in the sense that railroads pay taxes because of the large and continuing expense to states in maintaining highways. The only direct method then left for the states to recoup such a loss would be to increase the tax rates for individuals and corporations.

"In the third place, the induction of all present railroad employees into the federal service would create one of the most powerful political machines imaginable, and the situation might arise where the public would literally be at the mercy of its own employees.

"Finally, those of you who have had occasion to get things done by a government agency can readily visualize the success you might have in securing service from federally-owned railroads.

"Liberalization of the rules governing loans of government funds through the Reconstruction Finance Corporation might, in some instances, entail losses to the government, and in such instances liberalization would, in effect, amount to subsidies. While it is true that the government has made substantial subsidies to the ocean-shipping trade, to inland waterways, and to air transportation, it is extremely doubtful if subsidies to railroads would be politically possible, if indeed they would be economically feasible, at the present time. On the other hand, economic objections to subsidies, serious as they may be, are not nearly so serious as is actual government ownership.

"It is true that, ordinarily, investors who place their funds in industries which do not prosper must suffer losses commensurate with the decline in the industries. However, with railroad investors the situation is somewhat different. In the first place, railroads are public servants, and as such must serve the public regardless of the fact that doing so proves to be unprofitable. Trains must be operated whether the traffic offered for movement justifies such operations or not.

"In the second place, railroad securities in the past have been held up as one of the few investments permitted by law to savings banks and insurance companies. The fact that the savings of millions of people have been converted into railroad securities places savings banks and insurance company investors in a different category from ordinary investors who are free to choose their investments and to take risks in return for possible speculative profits.

"Furthermore, even though no business depression existed, there still would be a railroad problem, and if nothing more than I have already suggested were done, the railroad problem would persist in spite of a general pick-up in business conditions.

"It is my firm belief that other elements enter the permanent solution of the railroad problem. Principal among these are (1) consolidation, (2) equal regulation of other forms of transportation, (3) coordination of all forms of transportation, and (4) certain other revisions of the laws relating to the railroads.

"If the railroads are to continue under private ownership they simply must be given the right and opportunity to earn a fair return. The confidence in railroad securities has been largely destroyed during the past year, and can be restored only by definite assurances of safety for the future. If the government is going to restrict and limit railroad income it must of necessity set a dead-line beyond which such restriction and limitation will not go. If maximum income is to be regulated, then minimum income must be given like treatment.

"The time has come when the attraction to the railroads of new capital is a question of national economic importance. It should be very clear that unless confidence in railroad investments is restored no new capital will be forthcoming with which to rehabilitate the properties, meet maturities, and continue operations. It should be equally clear that unless new capital is forthcoming the railroad machine will topple into the lap of government, producing a crushing burden upon all taxpayers."

Bill to Encourage Travel

Representative Dyer, of Missouri, has again introduced in Congress a bill, H. R. 14178, providing for the establishment of a travel division in the Department of Commerce to study, encourage, promote, and develop the travel of foreigners and of citizens of the United States in this country.

Beatty Makes Plea for Amalgamation

C. P. R. executive says railways of Canada are overbuilt—Sees no monopoly peril

"Canada has a population of about 10,000,000 people. It has approximately 42,000 miles of railway, or 236 people per mile of railway, fewer people per mile than any other civilized country," E. W. Beatty, president of the Canadian Pacific, told a meeting of the Canadian Club in Toronto this week. "It has several thousands of miles paralleled by other miles, serving the same territory and reaching the same terminals. This constitutes our great individual item of waste."

"We must," he continued, "not only limit our capital expenditures to those that are essential or that will produce a reasonable return in the near future, but we must reduce our present mileage to accord with the actual needs of transportation and of national development. We must at the same time eliminate all expenditures designed to secure traffic for a competing railway rather than provide a necessary service for the public." Continuing, he said in part:

"These results can only be attained if we consolidate our two railways into one system with one management. We have had that question before us on three different occasions in the last ten years and on each occasion we have made a wrong turning. With many more years of experience behind us we are again faced with a problem more gravely vital to Canada's future than at any other time, and, again I am afraid the yard-stick of political expediency is being hauled out to test the rightness or wrongness of suggestions designed to relieve Canadians of what has become an intolerable burden. And even in these times of awakened public interest and keen desire for the most impartial consideration of our major domestic question, there are those who counsel that nothing that disturbs existing conditions should be done; that we should follow the old road no matter whether it leads to disaster; that because we believed in our noble experiment in public ownership ten years ago we should stubbornly adhere to our former policies notwithstanding our experience, which incidentally, has been the experience of the world.

"Important as has been the work of the Duff Commission particularly in its marshalling of the facts and its analysis of the history of transportation in Canada, with its tragic consequences, it does not provide any adequate solution or ground for much hope to the sadly burdened Canadian taxpayers. The commission's chief recommendations as to future policy was the continuance of competition between the two railway systems qualified by co-operation between them enforceable by compulsory arbitration.

"Can the state compete fairly with a citizen of the state? Most assuredly it cannot. Can a private company compete on anything like fair terms with a railway system backed by the long purse of the state? Again, it cannot. Should the

180,000 security and shareholders of the Canadian Pacific see their honest investment, based on confidence in Canada and its government, menaced by such competition even if the credit of the country could sustain, which it cannot, the losses incident to that system of administration of a great public utility? The answer again must be no.

"The dangers of railway monopoly are now mythical. Railways may unite, but no transportation monopoly is accomplished by their union. We have three distinct and growing competitors, the lakes and rivers, the motor vehicle and the airplane. A rail monopoly regulated by public authority and subject to the restraints that other forms of transportation competition will provide does not contain any element of menace or danger of unfairness to the shippers or traveling public under modern conditions.

"The contention is made that in the midst of a depression we should not frame policies which may be said to be founded on fear or despair. The answer is that we have created or inherited a system which is unscientific, unwieldy, unnecessary and unsupportable by our ten million people. We cannot afford it even in normal times, so why not make it as right as it is possible to make it, and why not do it now?"

Truck Regulation Bills Filed in Massachusetts

(*Continued from page 84*)

for such operations as they were conducting on October 1, 1932.

Common carrier truckmen, under the bill, would be required to pay annual fees of $25 and contract truckmen fees of $15, to pay the expenses of administration.

The other bill, which the railroads announced they would support, increases registration fees in Massachusetts of trucks of a gross weight of 8,000 lbs. or more but does not affect the present or future registration rates for vehicles under this weight.

The present Massachusetts registration fees for trucks are 15 cents per 100 lbs. of gross weight irrespective of size. In the proposed new act, the rates would continue at 15 cents up to 8,000 lbs., and then increase at a graduated scale upwards to $1.50 per 100 lbs. for trucks with a gross weight of from 35,000 to 40,000 lbs.

At the present time, it was pointed out, the Massachusetts rates are about the lowest in the country even for small trucks and as many states have sliding scales the present Massachusetts rates for the larger sized trucks are much lower than the rates in the majority of the other states.

Another of the bills seeks to prevent trucks and buses from coming into Massachusetts from other states and doing business over highways without taking out registration and complying with the Massachusetts laws in regard to insurance and other features. The bill does not require Massachusetts registration of trucks weighing less than two tons, exclusive of load, except when doing business for hire.

Another of the bills would prohibit operation of any trailers having a carrying capacity of more than one ton except when used for the transporting of poles or other single long units; the proposed legislation does not apply to semi-trailers.

Still another bill seeks reductions in the weight of vehicles allowed to be operated. In general terms the bill would reduce the weight of semi-trailer units from 20 tons to 15 tons, and the maximum weight of four-wheel trucks allowed to be operated within the state from 15 tons to 12 tons. The same bill would reduce the weight allowed solid-tired trucks from 14 tons to 10 tons except by special permit.

Limousine lines carrying passengers on the public highways, would be required to pay increased fees for the privilege of doing business by the provisions of another of the bills. This bill seeks a minimum registration fee of $25 for a passenger-carrying automobile operated for hire. Under the terms of the bill such requirement would not apply to private cars, and would have no practical affect on buses, because on the per-seat basis, their fees are now more than $25.

Another of the bills would reduce the width allowed trucks from 102 in. to 96 in.; would reduce the length of semi-trailers from 40 ft. to 35 ft., and would prohibit the use of full trailers. This bill would not reduce the length of straight four-wheel trucks from the present limits.

In order to make sure that this act would not work a hardship on owners of trucks and trailers now in operation, it would not take effect until January 1, 1935, because some semi-trailers of more than 35 feet in length are now registered.

Railway Employment Down Again in November

The number of employees in the service of Class I railways as of the middle of the month of November was 1,013,178, according to the Interstate Commerce Commission's monthly compilation. This is a reduction of 20,047 as compared with the number in October, following increases in September and October as compared with the preceding months. The number in November was 13.34 per cent less than the number in November, 1931.

House Committee Considers Railroad Reorganization Bill

The House judiciary committee has been meeting in executive session for several days in an effort to agree on the form of a bill to provide for railroad financial reorganizations without receivership and with the approval of a majority of the creditors and the Interstate Commerce Commission, hoping to be able to report a bill before the end of the week. Commissioners Eastman and Mahaffie of the Interstate Commerce Commission and President Charles A. Miller of the Reconstruction Finance Corporation conferred with the committee on the subject on January 14.

Regulation of Intercoastal Traffic Considered

Hearings have been held for the past two weeks before the House committee on merchant marine on the Copeland bill passed by the Senate at the last session of Congress to provide for a degree of regulation of intercoastal steamship transportation by the Shipping Board. The bill would require observance of published rate tariffs filed with the board and in some instances would authorize the board to prescribe minimum rates. The measure has been advocated by many ship operators and many shippers but is opposed by others and questions have arisen as to whether the regulation should be extended to contract shipping.

New Bus Rules in New York

The Public Service Commission of New York has adopted new rules and regulations governing the operation of motor buses in that state. The new rules are to become effective March 1, and are applicable to all bus lines or bus companies operating motor vehicles under the jurisdiction of the commission.

The commission has also prescribed approved rules for employees operating motor buses which provide for the safety of passengers and employees and the protection of the property of the company. They require all operators to maintain a clean and neat appearance and to treat all passengers courteously and forbid operators to converse with anyone when the bus is in motion.

Motor Men Misrepresent Rail Program, says Dunn

(*Continued from page 85*)

million injured annually. It is needed to compel those who offer highway transportation service to the public to render that service reliably, continuously, responsibly and efficiently. It is needed to stop unfair discriminations in rates and other practices in highway transportation which are now demoralizing commerce throughout the United States.

"Third. The railroad program contemplates, not destruction of highway transportation, but such co-ordination of railway and highway transportation as will afford the public the best practicable service at the least practicable cost. The truck is superior to the railway for transportation within terminals and for short distances. The railway is superior to the truck for long distance transportation. The proof that the railways are not trying to drive trucks from the highways is that railways throughout the country are themselves acquiring trucks and working out various plans of co-ordination to provide a complete rail-highway transportation service that will be as good and economical as practicable. What the railways object to is long distance competition from trucks which is made possible only by government subsidies to, and lack of regulation of, trucking, and which is unfairly, and contrary to every sound economic principle, diverting from the railways hundreds of millions of dollars annually in earnings which they need to render to the public the railway service that the public needs.

"The subsidized and unregulated truckers are not engaging in competition only with the railways. They are engaging in competition with commission merchants and retail merchants by buying commodities of numerous kinds and dumping them on

markets everywhere, thus demoralizing prices and destroying the profits of business men and business concerns that cannot meet such piratical competition. Protests against such demoralizing practices are being made by men in almost every line of business all over the country; and the spokesmen of truck manufacturers and operators answer them merely by misrepresenting demands for withdrawal of subsidies from truck operators and for reasonable regulation of truck operation as 'railroad propaganda' against all users of the highways.

"Proper regulation and withdrawal of subsidies from commercial highway transportation is in the interest not only of the railways and their employees, but of every taxpayer, of every farmer and almost every business man, of every owner of a private automobile or light truck, of manufacturers of private automobiles, and even of every truck manufacturer and truck operator who wants to see business done in this country in a way that will help to revive general business; and I don't believe that adoption of the fair and reasonable legislation regarding highway transportation for which the railways are asking will be prevented by the reckless misrepresentations of it which are being disseminated."

Frisco Plans Improvements

The receivers for the St. Louis-San Francisco have applied to United States District Judge C. B. Faris for authority to make expenditures of approximately $720,327 for improvements and additions to the road and two subsidiary lines during the first half of 1933. The proposed work includes the expenditure of $577,866 on the main lines of the Frisco in various states and an expenditure of $142,461 on the St. Louis, San Francisco & Texas and the Ft. Worth & Rio Grande.

Northern Pacific to Apply a Million Ties

The Northern Pacific plans to apply about 1,000,000 ties in the tracks of its system in 1933. Preparatory to this program, the company's tie treating plant at Paradise, Mont., which was closed early last summer, has resumed operations for the treatment of 100,000 ties and 350,000 ft. b. m. of switch ties; these for use in the territory between Billings, Mont., and Yakima, Wash. At Seattle, 175,000 ties will be treated under contract for use on the west end of the road, while the company's tie-treating plant at Brainerd, Minn., will resume operations about March 1, for the treatment of about 200,000 ties. The company has in storage about 500,000 ties that were treated in 1932.

Attempt to Set Aside Missouri Tax Increase Injunction

A motion requesting the United States district court of Missouri to set aside its injunction of December 31 which prevents the Missouri State Board of Equalization from enforcing a 10 per cent increase in the tax assessments of various railroads, was filed by four members of the board of equalization on January 5. Former Attorney General Stratton Shartel had consented to the decree of the court, and now the four other members of the board charge that Shartel's action was without their knowledge or consent and in direct opposition to the previously expressed opinion of the majority of the board, that the case should be further contested. The action of the court has saved the railroads approximately $500,000 in state, county, municipal and school district taxes for 1932.

Freight Traffic in November

Freight transported by the Class I railroads in the first eleven months of 1932 amounted to 237,894,992,000 net ton-miles, according to reports compiled by the Bureau of Railway Economics. This was a reduction of 75,590,992,000 net ton-miles, or 25.1 per cent, under the corresponding period in 1931 and a reduction of 39.5 per cent under the same period in 1930.

The Eastern district for eleven months showed a reduction of 23.4 per cent, the Southern a reduction of 26.5 per cent and the Western 26.9 per cent.

In November the total was 21,754,312,000 net ton-miles, a reduction of 3,329,995,000 net ton-miles or 13.3 per cent under the same month in 1931, and 32.7 per cent under November, 1930. The Eastern district in November reported a reduction of 10.3 per cent, the Southern a decrease of 12.8 per cent and the Western 17.5 per cent.

Railroad Borrowings in 1932

Although the railroads borrowed a good deal of money from the Reconstruction Finance Corporation in 1932, they borrowed even more from other sources, according to Interstate Commerce Commission records. Up to the end of the year the commission had approved loans from the R. F. C. amounting to $359,394,439, on applications aggregating $475,109,649, although all of this had not yet been authorized by the corporation. Loans from the Railroad Credit Corporation amounted to $46,931,732. In addition the roads borrowed $357,428,001 from other sources on notes authorized by the commission or for which certificates of notification were filed with the commission on notes not required to be authorized. During the year the commission authorized security issues amounting to $1,188,000,739, as compared with $804,403,873 in 1931, but this included a large volume of bonds used for collateral purposes.

Lengthening the Week-End

Among the numerous announcements of more liberal terms in the sale of low-price week-end tickets, that of the Central of New Jersey differs from others in that, in addition to making the going time-limit from Friday noon to Sunday noon, the tickets are to be sold on Friday at 9 a. m.; this for train 193, which leaves New York for Reading and Harrisburg at that hour. These tickets, now sold at 25 per cent above the one-way rate for a round trip, are good to return until the midnight trains of the following Monday and are good, the same as ordinary tickets, in Pullman cars.

Low rate week-end tickets are now sold by the Central of New Jersey at all stations between New York and Wilkes-Barre, except locally between New York and Raritan. These tickets when sold on Friday and Saturday are good until midnight on Sunday; but those sold on Sunday are good only on the date of sale.

Eastern Committee on Passenger Fares Meets

The committee of passenger traffic officers recently appointed by the eastern railroads to collaborate with similar committees, representing western and southeastern carriers, on a reply to the Interstate Commerce Commission's inquiry as to the advisability of reducing basic passenger rates, met in New York on January 17. Members of the eastern committee are: L. W. Landman, general passenger traffic manager of the New York Central; J. L. Eysmans, a vice-president of the Pennsylvania, and F. J. Wall, general traffic manager of the New York, New Haven & Hartford.

While no statement was forthcoming after the meeting, it is understood that the group has virtually completed its deliberations and is prepared to recommend that no change be made in the basic passenger rate but that special excursion rates and reduced-fare week-end tickets be continued.

Southern's Bargain Fares for Roosevelt Inauguration

Reduced round-trip fares from all points on its lines will be available to patrons of the Southern who wish to attend the inauguration of President-Elect Franklin D. Roosevelt in Washington, D. C., on March 4. The bargain-fare tickets will be sold on March 1, 2 and 3, and for morning trains on March 4; the return limit will be March 10. For individuals the fare will average two cents per mile while a one-cent-per-mile rate will apply to parties of 25 or more persons traveling on one ticket. A round-trip Pullman fare equal to one and one-half the regular one way rate will also be available.

The Southern's passenger traffic department has just issued an attractive circular to announce the reduced rates. In addition to its detailed list of the bargain fares this circular reproduces photographs of President-Elect Roosevelt and Vice-President-Elect Garner, and also a quotation from a recent address of Admiral Cary T. Grayson, chairman of the inaugural committee, inviting all interested citizens to attend the ceremonies.

Burdensome Law Suits

The Great Northern, which was recently sued in the state of Minnesota to recover $285,000 damages caused by a fire in the state of Washington, alleged to have been set by the railroad, protested against having to defend itself at such a great distance from the scene of the fire, about 1400 miles, and has won its case, the county court in Spokane County, Washington, having issued injunctions, on January 11, enjoining the 26 fire insurance companies which entered the suits, from taking further action in Minnesota.

The fire was in the plant of the McGoldrick Lumber Company, at Spokane in August, 1929. The twenty-six fire insurance companies had to bear the loss, and they filed each a suit in Stearns County,

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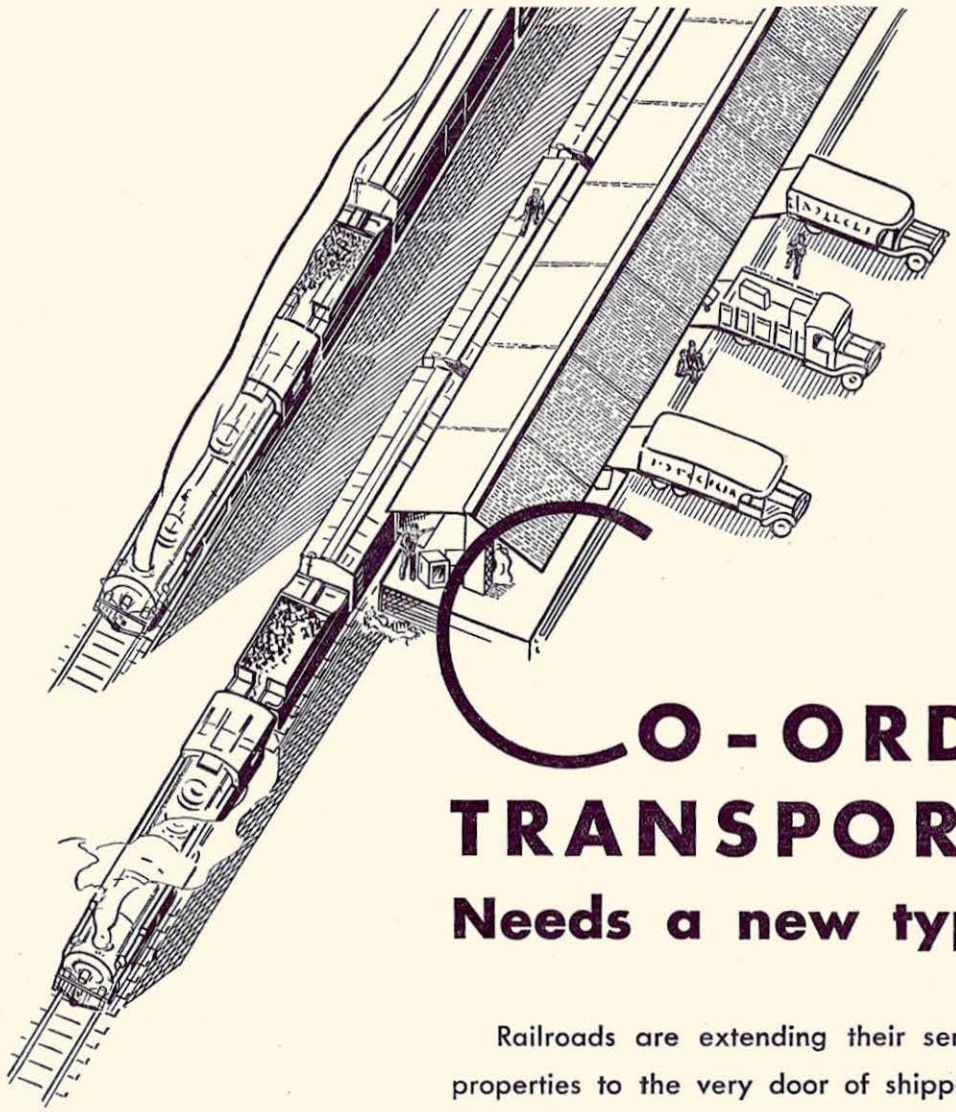

CO-ORDINATED TRANSPORTATION

Needs a new type of Power

Railroads are extending their service beyond their railway properties to the very door of shippers and receivers of freight. « The railway is used for the mass movement of commodities. Motor trucks are used for collection and delivery service. « This co-ordination speeds service to shippers and is economically sound. « But to enable the railway part of the co-ordinated service to function effectively requires a new type of locomotive that will serve its function as efficiently as heavy Super-Power is now serving in its field of operation. « Locomotives are needed that incorporate all the operating and maintenance economies of the designer's art, coupled with high speed and greater availability. « Lima is prepared to supply light, powerful locomotives to fit into the new conception of co-ordinated transportation.

LIMA LOCOMOTIVE WORKS INCORPORATED

LIMA LOCOMOTIVE WORKS, INCORPORATED

LIMA OHIO

Minnesota. The railroad, having made investigation to assure itself that it was not at fault then sued the insurance companies in Spokane County, to enjoin them from prosecuting their suits in Minnesota, with the result as stated. The railroad showed that sixty important witnesses would have had to be transported from Washington to the place of trial at great expense and inconvenience.

Club Meetings

The Northwest Car Men's Association (St. Paul) will hold its next meeting on Monday evening, February 6, at the Y. M. C. A. Building, Minnesota Transfer. The discussion will be on the interchange rules which went into effect on January 1.

The Canadian Railway Club will hold its next meeting on Monday evening, February 13, at the Windsor Hotel, Montreal; Bernard Allen, assistant economist of the Canadian National, will present a paper on "highway service."

The Cleveland (Ohio) Railway Club will hold its next meeting on Monday evening, February 13, at the Auditorium Hotel, Cleveland. The discussion will be on the A. R. A. rules.

The New England Railroad Club will hold its next meeting on Tuesday evening, February 14, at the Hotel Statler, Boston, beginning with a banquet at 6.30 o'clock. O. C. Cromwell and W. R. Whitsitt, of the Baltimore & Ohio, will speak on air conditioning of passenger cars.

The Railway Car Men's Club of Peoria and Pekin (Ill.) will hold its next meeting on Thursday evening, February 16, at the Union Station, Peoria. The discussion will be on the interchange rules as revised for 1933.

Economies to be Effected in Brake Cleaning

The American Railway Association, Mechanical Division, has revised, effective January 1, 1933, the interchange rules and the maintenance rules pertaining to brake and train-air-signal equipment to provide for an extension of the time for periodically cleaning air brakes from 12 months to 15 months, thus in effect reducing the cost about 25 per cent, or $1 per car per year.

The details of this important action are given in circular No. D. V. 797, recently issued by the division, covering changes in Interchange Rules 60, 100, 101, 102 and 110. Instructions are also given in the circular regarding the maintenance of brake equipment on freight cars carrying the new experimental Type-AB brake, in part as follows:

"In order to determine the average length of time these new brake equipments may be operated in service without being cleaned and lubricated, periodical attention must not be given them until a defect develops. Therefore, the Type-AB valve and brake cylinder must not be cleaned nor lubricated."

The Type-AB experimental brake has been applied to 925 Pennsylvania X29 box cars, of 100,000-lb. capacity.

Another change made effective January 1, 1933, as announced in the circular, pertains to Interchange Rule 3, Sec. (c), Par. 1, covering coupler requirements on cars built new, on or after August 1, 1932. This date is extended to August 1, 1933. Similarly, in Par. 2 of the same rule and section, the effective date of the requirement is extended to August 1, 1933.

Secretary Hurley Favors Regulation of Water Rates

Regulation of port-to-port rates of common carriers by water was favored by the Secretary of War, Patrick J. Hurley, in an address before the National Rivers and Harbors Congress in connection with its annual convention in Washington on January 17.

"It is, of course, a difficult matter to prepare regulations for common, contract and private carriers equally applicable. The greatest objection to the regulation of common carriers by water is the tendency to regulate them up to all rail rates," he said. "I believe that some such regulations as those recommended by the United States Chamber of Commerce of this subject would not be objected to by common carriers, and if a law could be enacted which would make these regulations effective, that they would be of considerable benefit. Condensed, these recommendations of the Chamber of Commerce are as follows, and I concur in them:

> That common carriers by water should be required to file and adhere to port-to-port rates in the manner now required by law with respect to rail rates. * * * In the public interest water carriers should be protected against the establishment of rail rates so low as to deprive the water lines of the traffic which they can more economically handle, appropriate elements of cost being taken properly into account. Rail rates to competing water points should be adequately compensatory.
>
> The committee recommends that neither rail nor water carriers should be permitted to establish rates to competitive points which are not adequately compensatory.

Shortly before General T. Q. Ashburn, president of the Inland Waterways Corporation, had made an address criticizing many features of the same report, which he said was "so characteristically anti-waterways that it is not difficult to believe that it was written by a railroad attorney."

I. C. C. Asks Authority to Delegate Powers

Commissioner Joseph B. Eastman, of the Interstate Commerce Commission; John E. Benton, general solicitor of the National Association of Railroad and Utilities Commissioners; C. A. Miller, for the American Short Line Railroad Association, and R. C. Fulbright, representing the National Industrial Traffic League and the Association of Practitioners Before the Interstate Commerce Commission, testified before the House committee on interstate and foreign commerce on January 18 in support of the bill, H. R. 7432, to authorize the federal commission to refer any portion or class of its work to individual commissioners or employees of the commission, subject to certain limitations. This would enable the commission to do its work more expeditiously, thoroughly and effectively, Commissioner Eastman explained, adding that it is clearly provided in the bill that any action by an individual commissioner or board of employees shall be subject to rehearing or reconsideration, first by a division of the commission and finally by the commission itself. The authority would not extend to investigations instituted on the commission's own motion, nor, without the consent of the parties, to contested proceedings involving the taking of testimony at public hearings. Mr. Fulbright made it clear that the shippers were supporting the bill only on condition that that condition is included.

Rates on Strawberries From Florida

Rates on fresh strawberries, in carloads, in express service and in freight service from points in Florida to northern destinations were found unjust and unreasonable, in a decision by Division 5 of the Interstate Commerce Commission made public on January 9, to the extent that the rates for express service exceed 120 per cent of the first-class freight rates and that the rates for freight service exceed the present first-class rates. Present refrigeration charges were found not unreasonable or otherwise unlawful.

The present rates for express service are commodity rates representing 70 per cent of the corresponding first-class express rates. In both cases the rates are made subject to a minimum of 17,000 lb. per car. The originating rail freight carriers had expressed a willingness, if their connections concurred, to apply the present first-class freight rates from all shipping points in Florida, and calculated that this would result in reducing the present rates when shipments are loaded on an average in excess of 14,000 lb. They argued that such a line of rates would enable the shipper to help himself by loading heavier than he now does, thereby obtaining the lower line-haul rates and also reducing the refrigeration charges per crate.

Securities of Interurban Line Not Within I. C. C. Jurisdiction

Holding that the Chicago, North Shore & Milwaukee is a "typical example of an interurban electric line for passenger service" and not within the jurisdiction of the Interstate Commerce Commission so far as regulation of its security issues is concerned, the Supreme Court of the United States in a decision issued on January 9 affirmed the order of the district court which had denied an injunction sought by the commission to restrain the company from issuing securities without its authorization. The court pointed out that since March 1, 1920, when the Transportation act became effective, the company had issued $71,327,200 of securities with the approval of the Wisconsin and Illinois authorities and that the director of the commission's Bureau of Finance had advised the company that it would not be required to file returns under Section 20a of the interstate commerce act, although the company's annual reports filed with the federal commission disclosed that it had issued the securities with state approval.

"The position heretofore taken by the commission with respect to the appellee is of great significance," the court said. "With this knowledge of the situation, the commission never, until it requested the Attorney General to institute the present suit, by word or act intimated that the

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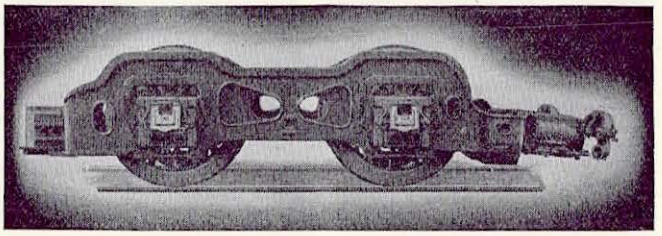
Passenger Comfort is GOOD BUSINESS . . .

Give the passengers soft cushions, modern appointments and air-cooled cars. It creates business. « But then don't spoil the effect by jerking them like a car of live-stock. Passengers can resent it. « Easy starts are important in building a reputation for comfortable travel. Many roads are using The Locomotive Booster to avoid jerks in starting and to keep up to schedules. « The Booster performs a valuable service wherever it is used. It adds the power of another pair of drivers, yet this power can be turned off or on as the demands rise or fall. Smooth starts, rapid acceleration to road speeds and on-time runs result. The passenger's good will is won — economical operation is obtained.

FRANKLIN RAILWAY SUPPLY COMPANY, Inc.

NEW YORK CHICAGO MONTREAL, CANADA



procedure followed by the railroad was illegal or the State regulatory bodies without jurisdiction. It would be difficult indeed to conceive a clearer case of uniform administrative construction of Section 20a as applied to this company. Conceding "that the proper classification of the railway is not free from difficulty, all doubt is removed by the application of the rule that settled administrative construction is entitled to great weight and should not be overturned except for cogent reasons.

"The primary responsibility rested upon the Commission to determine whether under the circumstances the railroad was required to procure leave under Section 20a for the issuance of securities. Evidently entertaining serious doubts on this question it has for more than a decade resolved them in favor of the carrier, and the company and its officers have acted in reliance on the administrative tribunal's construction of the statute. At this late day the courts ought not to uphold an application of the law contradictory of this settled administrative interpretation."

Locomotive Performance and Net Operating Income

That locomotives performance has a direct bearing on operating income of a magnitude which makes it one of the most important points of attack in the reduction of operating expense was amply demonstrated at the Western Railway Club meeting held Monday evening, January 16, at Chicago. In a comprehensive paper entitled "The Relation of Locomotive Operation to Railroad Net Operating Income," by Thomas R. Cook, manager, inspection and field service of the Baldwin Locomotive Works, the rapidly mounting cost of locomotive maintenance in the case of older power was clearly demonstrated. The objectives and conclusions of the paper were summarized in Mr. Cook's closing paragraph:

"We have attempted to point out in this paper the possibilities of greatly decreasing the expenses which revolve around the use of locomotives. This decrease in expenses would become net operating income. When it is realized that over one-third of all operating expenses are controlled by locomotive use, these savings could gradually, through wider and wider use of new power, amount to some hundreds of millions of dollars annually. In no other phase of railroad operation is there anything like an equal opportunity to contribute to that rehabilitation of railroad earning power which is so sorely needed."

Bus Association Files Brief With N. T. C.

Expressing approval of proposed federal regulation of interstate bus lines and "reasonable" restrictions on sizes and weights of vehicles, the National Association of Motor Bus Operators, in a brief submitted on January 14 to the National Transportation Committee, urged that highway passenger service be considered only in the light of public interest in arriving at a solution of the country's transportation problems.

Holding that rail passenger traffic has suffered little from the competition of the bus, the association declared that the greater part of the loss in rail passenger revenues may be attributed to competition between railroads and to the lowering of fares by "non-compensatory" departures from legal basic rates.

"It is the unanimous opinion of highway users," said the brief, "that their problem should be considered with a view to giving the best kind of transportation at the lowest possible cost and not with the idea of restricting the public use of highways in order to protect railway revenues."

With reference to regulation of bus lines, the association cited that bus operators themselves since 1925 have repeatedly urged Congress to enact regulatory legislation governing interstate lines and that the effectiveness of intrastate control has to some extent been restricted by the unregulated interstate carrier.

On the question of sizes and weights of buses, the organization approved the uniform restrictions recently recommended by the American Association of State Highway Officials.

The conclusions of the Association of Bus Operators, as summarized in a press release on the brief, are as follows:

Common carrier bus operations in both interstate and intrastate commerce should be subjected to fair and reasonable regulation by state and federal authorities.

Operating units should be regulated as to sizes, weights and dimensions on the basis of a scientific determination of the kind of vehicles demanded by the economic development of our country and the existing and future highway design.

The motor bus is the most highly taxed of any transportation agency and suffers from gross discrimination in the application of the different special highway taxes. It should be relieved of a large portion of its tax burden and the average tax per bus brought more in line with the tax levies on other automotive vehicles or thousands of communities, now dependent entirely on highway transportation will be deprived of their only common carrier service.

The interstate motor bus in particular must be relieved of the multiplicity of tax levies it now pays if interstate commerce by highway passenger carriers is to continue.

Competition by motor buses has had little effect on rail passenger traffic. A great part of the loss in rail revenues has been due to competition between railroads and to the lowering of the average rate per passenger mile by "non-compensatory" departures from the legal basic rate.

Rail passenger rates should be stabilized at a reasonable and compensatory level and no departures from the adopted basic rates should be authorized by the regulatory authorities except under unusual circumstances where the handling of an assured volume of traffic would make reduced round trip rates compensatory.

Coal Association Protests Against Surcharge

Protesting the continuance of the surcharge freight rate on bituminous coal and coke, and asserting that not only should it be eliminated but that the base rates on coal and coke ought to undergo downward revision, the National Coal Association has filed with the Interstate Commerce Commission an extensive brief in the Ex Parte No. 103 rate case. This case arises on the petition of the railroads for a continuation without time limit of the temporary and emergency rate increases authorized by the commission a year ago, which will expire in March unless the Commission otherwise orders.

The appearance of the National Coal Association in this case is in accordance with the present program of the industry to seek deflation of transportation costs, a program which it vigorously argued by the Association before the National Transportation Committee.

In the brief it is stated: "It is the considered opinion of the bituminous coal industry that the carriers were mistaken in the original proceeding in attempting to increase transportation charges on coal and instead of increasing them they should have been reduced in an effort to retain the coal tonnage. It is not possible to give exact data on losses directly chargeable to the so-called surcharge. Losses have been steadily assuming large proportions, and the surcharge of 6 cents a ton merely aggravated an already bad condition."

Referring to truck competition with the railroads, the brief says that, "analysis of reports received by the National Coal Association from different parts of the country respecting the use of trucks for moving coal from the mines points out clearly the trend toward the use of the truck. The bituminous coal industry, however, is more concerned with the development and use of the pipe lines which transport oil and natural gas and are not regulated. The carriers, except in few instances, have not met the competition of the pipe lines which take the tonnage from both the railroads and the coal industry.

"No one questions the fact that the carriers as a whole need more revenue but the facts are that the bituminous coal industry is now required to pay more than its fair share of present transportation charges, and as a result the carriers are losing a large volume of business. In order to permit them to do this they should be allowed to readjust the charges on bituminous coal to a rate no greater than the traffic will bear. If necessary, they should be permitted to increase charges on other traffic, which may be able to absorb the increases and whose burden is not nearly so great as that of bituminous coal."

Considerable opposition to a continuance of the surcharge has come from individuals and small organizations pleading for some one commodity but no extensive action; though 46 different statements had been received up to January 18. The Chicago Association of Commerce has presented a memorial asking to have the time limit extended to October 31, and pointing out that the railroads are now laboring under a far more critical condition than existed at the time of the original report in this case. There have been protests from the Commissions of South Dakota and North Dakota. The American Fruit & Vegetable Shippers' Association opposes the continuation of the surcharge, while the American Short Line Railroad Association presented a petition favoring its continuance.

Railroads Oppose Thirty-Hour Week Bill

Opposition on the part of the railroads to the bill introduced in the Senate by Senator Black, of Alabama, to prohibit the interstate transportation of articles produced by employment for more than six hours a day and five days a week, was presented by Alfred P. Thom, general counsel of the Association of Railway Executives, at a hearing before a subcommittee of the Senate judiciary committee on January 18. He said the bill is clearly unconstitutional and that the Supreme

Continued on next left-hand page

TAKE YOUR PICK . .

$1.00
for arch brick

OR

$10.00
more for fuel

You can't have your cake and eat it. ¶ If you try to save $1.00 in Arch Brick by cutting down on the Arch it will cost you $10.00 more in fuel for each $1.00 "saving" in brick. ¶ These proportions have been proved by tests on several roads involving various types of locomotives. ¶ Economy is essential but it should be true economy that results in the greatest net return to the treasury. ¶ This calls for a 100% Arch on every locomotive.

HARBISON-WALKER REFRACTORIES CO.
Refractory Specialists

AMERICAN ARCH CO.
INCORPORATED
Locomotive Combustion Specialists

Court has specifically decided that the commerce clause has not authorized Congress to legislate on such questions which are within the power of the states. He also suggested that if the bill be passed, the prohibition be directed to the manufacturer or shipper, instead of placing the responsibility on the railroad, which cannot know whether goods offered for transportation have been produced under conditions which the bill attempts to prevent. He also suggested that the word "knowingly" might be inserted but that this would place a great hardship on the railroads because of the multiplicity of transactions and the fact that employees might disobey instructions. He also made the point that if responsibility is left on the railroads the tendency would be to divert shipments to other forms of transportation less likely to inspection.

Senator Norris asked if the Supreme Court might not take judicial notice of the existence of a great national emergency in considering such a law, but Mr. Thom replied that he did not think appreciation of a national emergency would persuade that court or any other court to break down the lines of demarcation between the powers of the states and the powers of the United States. It must be assumed that if the conditions are so exigent there is a remedy for them under our form of government, and the states still have the power to regulate hours of service and production.

Operating Revenues and Operating Expenses of Class I Steam Railways in the United States

Compiled from the Monthly Reports of Revenues and Expenses for 168 steam railways, including 17 switching and terminal companies

FOR THE MONTH OF NOVEMBER, 1932 AND 1931

Item	United States 1932	United States 1931	Eastern District 1932	Eastern District 1931	Southern District 1932	Southern District 1931	Western District 1932	Western District 1931
Average number of miles operated	242,051.62	242,239.49	60,139.17	60,216.79	45,978.96	46,154.38	135,933.49	135,868.32
Revenues:								
Freight	a $203,145,507	$238,458,977	$84,887,400	$98,424,859	$40,638,567	$46,553,818	$77,619,540	$93,480,300
Passenger	24,859,074	35,900,549	15,281,605	21,505,884	2,669,776	3,933,837	6,907,693	10,460,828
Mail	7,722,682	8,367,508	3,032,050	3,247,624	1,325,313	1,403,401	3,365,319	3,716,483
Express	3,703,023	5,154,608	1,255,977	2,477,958	603,838	798,051	1,843,208	1,878,599
All other transportation	b 8,556,426	10,405,322	5,046,996	6,073,401	643,197	772,380	2,866,233	3,559,541
Incidental	5,065,139	6,470,742	2,883,955	3,717,831	701,378	802,073	1,479,806	1,950,838
Joint facility—Cr.	694,356	922,280	218,164	268,680	121,741	150,304	354,451	503,296
Joint facility—Dr.	171,344	306,124	34,995	71,184	19,007	24,029	117,342	210,911
Railway operating revenues	253,574,863	305,373,862	112,571,152	135,645,053	46,684,803	54,389,835	94,318,908	115,338,974
Expenses:								
Maintenance of way and structures	26,233,145	35,233,316	10,034,165	14,494,409	5,475,090	7,710,707	10,723,890	13,028,200
Maintenance of equipment	49,738,590	58,197,576	22,787,443	26,336,697	9,096,302	11,162,980	17,854,845	20,697,899
Traffic	7,378,878	9,375,402	2,757,750	3,657,079	1,324,731	1,750,708	3,296,397	3,967,615
Transportation	92,603,041	118,698,083	42,933,319	56,096,657	15,078,401	19,075,209	34,591,321	43,526,217
Miscellaneous operations	1,957,974	2,929,174	994,220	1,461,136	204,196	292,486	759,558	1,175,552
General	11,993,182	14,619,067	4,973,436	6,380,683	2,102,560	2,547,172	4,917,186	5,691,212
Transportation for investment—Cr.	237,506	555,453	80,488	113,543	19,509	48,183	137,509	393,727
Railway operating expenses	189,667,304	238,497,165	84,399,845	108,313,118	33,261,771	42,491,079	72,005,688	87,692,968
Net revenue from railway operations	63,907,559	66,876,697	28,171,307	27,331,935	13,423,032	11,898,756	22,313,220	27,646,006
Railway tax accruals	19,693,931	19,820,385	8,402,599	8,552,332	3,697,904	3,706,943	7,593,428	7,561,110
Uncollectible railway revenues	79,804	102,220	24,825	47,599	23,577	12,766	31,402	41,855
Railway operating income	44,133,824	46,954,092	19,743,883	18,732,004	9,701,551	8,179,047	14,688,390	20,043,041
Equipment rents—Dr. balance	7,239,058	7,545,382	4,174,871	4,321,529	7,650	60,626	3,056,537	3,163,227
Joint facility rent—Dr. balance	2,715,644	2,621,006	1,428,594	1,456,766	310,293	254,894	976,757	909,346
Net railway operating income	34,179,122	36,787,704	14,140,418	12,953,709	9,383,608	7,863,527	10,655,096	15,970,468
Ratio of expenses to revenues (per cent)	74.80	78.10	74.97	79.85	71.25	78.12	76.34	76.03

FOR ELEVEN MONTHS ENDED WITH NOVEMBER, 1932 AND 1931

Average number of miles operated	242,166.73	242,317.97	60,166.45	60,256.38	46,136.60	46,136.73	135,863.68	135,924.86
Revenues:								
Freight	c $2,263,765,855	$3,042,017,095	$964,373,285	$1,278,649,131	$434,731,636	$577,092,611	$864,660,934	$1,186,275,353
Passenger	346,892,543	510,427,039	207,296,824	293,729,301	39,167,668	61,480,818	100,428,051	155,216,920
Mail	87,480,076	94,797,941	34,632,322	36,741,124	14,791,075	15,957,657	38,056,679	42,099,160
Express	49,755,623	76,481,375	21,955,861	34,293,955	8,237,800	12,143,477	19,561,962	30,043,943
All other transportation	e 101,541,451	132,330,714	59,612,869	76,689,457	7,168,947	9,875,492	34,759,635	45,765,765
Incidental	60,757,819	84,319,837	34,239,396	44,893,106	7,830,591	11,439,360	18,687,832	27,987,371
Joint facility—Cr.	8,278,040	10,522,186	2,760,944	3,361,503	1,513,810	1,864,513	4,003,286	5,296,170
Joint facility—Dr.	2,604,948	3,120,614	686,273	820,551	206,204	279,019	1,712,471	2,021,044
Railway operating revenues	2,915,866,459	3,947,775,573	1,324,185,228	1,767,537,026	513,235,323	689,574,909	1,078,445,908	1,490,663,638
Expenses:								
Maintenance of way and structures	333,555,797	505,487,784	133,084,895	213,242,782	64,995,118	97,205,170	135,475,784	195,039,832
Maintenance of equipment	572,566,170	762,959,999	259,763,888	353,361,246	104,055,452	138,954,439	208,746,830	270,644,314
Traffic	89,192,667	108,532,282	34,139,688	42,361,712	16,450,848	20,029,593	38,602,131	46,140,977
Transportation	1,079,304,083	1,446,445,089	505,746,353	683,145,200	173,783,271	236,162,348	399,774,459	527,137,541
Miscellaneous operations	25,952,330	38,521,136	12,873,751	18,751,748	2,898,814	4,348,604	10,179,765	15,420,784
General	144,505,385	168,926,138	62,894,491	73,657,005	24,624,824	29,393,366	56,986,070	65,875,767
Transportation for investment—Cr.	3,895,848	6,783,790	1,361,746	1,335,526	280,090	789,177	2,254,012	4,659,087
Railway operating expenses	2,241,180,584	3,024,088,638	1,007,141,320	1,383,184,167	386,528,237	525,304,343	847,511,027	1,115,600,128
Net revenue from railway operations	674,685,875	923,686,935	317,043,908	384,352,859	126,707,086	164,270,566	230,934,881	375,063,510
Railway tax accruals	263,834,357	291,737,061	112,025,413	120,047,475	47,767,526	53,887,370	104,041,418	117,802,216
Uncollectible railway revenues	859,880	766,154	334,753	284,293	150,927	154,524	374,200	327,337
Railway operating income	409,991,638	631,183,720	204,683,742	264,021,091	78,788,633	110,228,672	126,519,263	256,933,957
Equipment rents—Dr. balance	79,430,512	91,755,783	40,251,005	46,083,854	3,470,259	4,300,123	35,709,248	41,371,806
Joint facility rent—Dr. balance	29,404,610	29,100,841	15,975,857	15,967,438	3,299,420	3,030,283	10,129,333	10,103,120
Net railway operating income	301,156,516	510,327,096	148,456,880	201,969,799	72,018,954	102,898,266	80,680,682	205,459,031
Ratio of expenses to revenues (per cent)	64.78	68.66	76.06	78.25	75.31	76.18	78.59	74.84

a Includes $5,129,139 increase from "Ex Parte 103." b Includes $88,932 increase from "Ex Parte 103." c Includes $58,035,573 increase from "Ex Parte 103." d Deficit or other reverse items. e Includes $982,300 increase from "Ex Parte 103."

Compiled by Bureau of Statistics. Subject to Revision.

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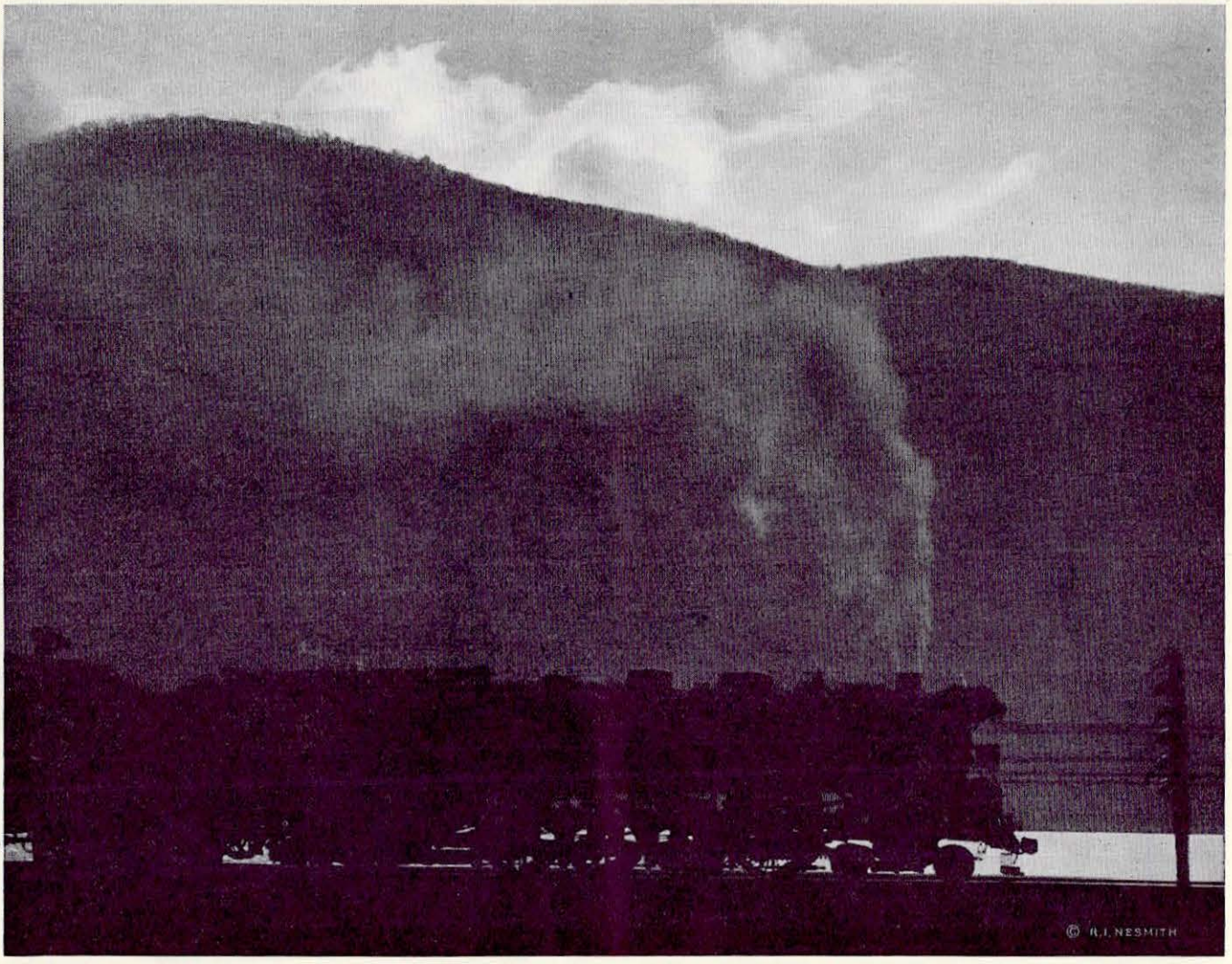
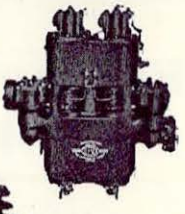
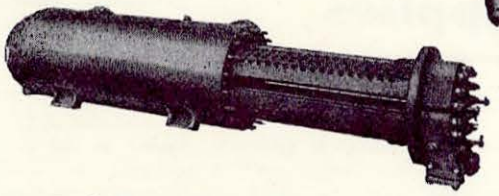
RAILROADS NEED



FUEL SAVERS

Elesco CF-1 Type Boiler Feed Pump





Elesco Feed Water Heater, Showing Tube Bundle Partially Withdrawn

Day in and day out many locomotives are losing fuel needlessly by exhausting all steam to the atmosphere . . . fuel which can be saved through use of an Elesco feed water heater.

By reclaiming a portion of the exhaust steam in preheating the boiler feed water, an Elesco feed water heater reduces by 12 to 15 per cent the fuel necessary in the firebox.

If, in preference to fuel saving, increased boiler capacity is desired, at least 15 per cent more is available—with the same fuel consumption.

Whether figured by reduced fuel consumption or increased boiler capacity, Elesco feed water heaters soon pay for themselves in service and increase the economical usefulness of steam locomotives.

Write for the latest facts—you will be surprised how easily these savings can be obtained.

THE SUPERHEATER COMPANY

Representative of AMERICAN THROTTLE COMPANY, INC.

60 East 42nd Street, New York — Peoples Gas Building, Chicago

A-761

Canada: THE SUPERHEATER COMPANY, LTD., Montreal

Superheaters « Feed Water Heaters « Exhaust Steam Injectors « Superheated Steam Pyrometers « American Throttles

So far, he said, the bill does not undertake to regulate the hours of service of railway employees, but he asked that, if an effort be made to extend the bill, as has been suggested, the railways be given an opportunity to be heard. Senator Black said he favored including railway employees in a law but not necessarily in this bill. Senator Norris also expressed a similar opinion, but said he could not guarantee that the question of an amendment to include railway employees would not come up before the full committee or on the floor of the Senate when it would be too late to have a hearing. Mr. Thom also pointed out that railroads are to some extent manufacturers and said it would be unfortunate for them to be under a law requiring them to put certain classes of labor on a different basis from others, while it would be "ruinous" for them to have to pay all labor eight hours' pay for six hours' work.

Mr. Thom was also to appear before the House labor committee on Thursday on the similar bill pending before that committee.

J. A. Farquharson, legislative representative of the Brotherhood of Railroad Trainmen, and A. F. Stout, legislative representative of the Maintenance of Way Employees' brotherhood, appeared the committee on January 13 in support of the bill. Mr. Farquharson said that while its terms do not apply directly to railroad employees they would be helped because the adoption of a shorter work-week would increase the volume of commodities transported. After describing the reduction in the number of railroad employees and saying that the roads have been constantly performing their work with fewer and fewer men, he said the B. R. T. is in favor of the short work-week but believes it ought to be brought about without reduction in pay just as the 10-hour day was substituted for the 12-hour day and the 8-hour day for the 10-hour day. Senator Black asked for suggestions for changes in the bill to make its provisions applicable to railroad employment. Mr. Stout subscribed to what Mr. Farquharson had said.

Equipment and Supplies

LOCOMOTIVES

THE CHICAGO, BURLINGTON & QUINCY has ordered three 60-ton Diesel electric switching locomotives from the Midwest Locomotive Works.

THE NORTHERN PACIFIC has purchased the Timken roller-bearing steam locomotive. This locomotive, which is of the 4-8-4 type, was built by the American Locomotive Company for the Timken Roller Bearing Company for the purpose of demonstrating the practicability and efficiency of roller bearings and has been in experimental service on various railroads throughout the United States. It will be used by the Northern Pacific to haul the North Coast Limited over the Cascade mountains between Seattle, Wash., and Ellensburg.

PASSENGER CARS

THE CHICAGO, BURLINGTON & QUINCY has placed orders with the Frigidaire Corporation for air-conditioning equipment for six cars for a train to be exhibited at the Century of Progress Exposition and for three dining cars to be used on the Aristocrat.

MISCELLANEOUS

THE ALTON on February 1 will employ 150 additional men in its locomotive shops at Bloomington, Ill., thus bringing the working force up to 500 men, on a part-time basis of 15 days a month.

Supply Trade

H. B. Crantford of the railway department, Electric Storage Battery Company, Philadelphia, Pa., has resigned to go to the **Philco Radio & Television Corporation,** Philadelphia.

E. P. Chase, formerly railroad sales representative of **Fairbanks, Morse & Company,** New York district office, has been appointed manager of railroad sales at that office to succeed **E. P. Vroome,** who resigned on December 31. **R. F. Lane** had been appointed railroad sales representative with headquarters at New York.

The American Creosoting Company, Louisville, Ky., has purchased the properties of the **Gulf States Creosoting Company,** including timber treating plants at Hattiesburg, Miss., Jackson and Meridian, Slidell, La., Birmingham, Ala., and Brunswick, Ga. With these six plants, the American Creosoting Company will now control directly and through subsidiary companies a total of 25 timber treating plants.

W. S. Shiffer, who has been connected with the **Reading Iron Company,** Reading, Pa., for some time and recently acting as assistant general manager of sales, has been appointed general manager of sales and **J. L. Jacobson,** manager of sales in the central region, has been appointed assistant general manager of sales. Both Mr. Shiffer and Mr. Jacobson will be retained in the general sales office, Philadelphia, Pa. **G. H. Woodroffe** has been appointed manager of boiler tube sales, **C. T. Ressler,** manager of railroad and marine sales and **L. K. Simons,** manager of cut nail sales.

The General American Tank Car Corporation, Chicago, has concluded a 15-year contract with the **Chicago, Rock Island & Pacific,** taking over the entire refrigerator car service on the Rock Island system. The territory covered includes a large part of the southwest and far west—over 8,000 miles of line. Under the contract the General American Tank Car Corporation takes over the Rock Island's 1,200 refrigerator cars and in return furnishes all the refrigerator car needs of the railroad. The tank car company also agrees to pay a fixed price per month based on mileage and assumes the responsibility of repairs.

E. H. Wells, Jr., formerly assistant to the chief engineer of the transportation and government department, **Johns-Manville Sales Corporation,** has been appointed sales manager of the electric railway and motor bus division, transportation and government department, with headquarters in New York, succeeding **J. S. Doyle, Jr.,** who has been promoted to sales manager of the general automotive department. Mr. Wells was born on January 8, 1904, at Worcester, Mass., and was graduated from Massachusetts Institute of Technology in 1927. Prior to his association as assistant to chief engineer, he was associated with the factory organization of the Johns-Manville Corporation in the manufacturing, planning and production control departments.

OBITUARY

Basil Magor, consulting engineer and manufacturer of railroad cars, founder and first president of the Magor Car Corporation, died on January 14 at his home in New York. Mr. Magor was born 62 years ago at Montreal, Quebec, and was educated in the Rensselaer Polytechnic Institute, graduating as a civil engineer in 1894. In 1898 he went to China and was engaged in making plans for building a railroad from Canton to Hankow. In 1902 Mr. Magor founded and became first

Basil Magor

president of the Magor Car Corporation. For several years up to about five years ago he represented the Magor Corporation in London as its foreign representative and at the time of his death was a director of that corporation, having been succeeded as president by his brother, Robert J. Magor. Basil Magor was also the founder and former president of the National Steel Car Corporation. From 1904 to 1907 he was a partner of the New York consulting engineering firm of Wonham & Magor, and later practiced his profession alone. During the World War he was a district manager at Port Jefferson, L. I., for the Emergency Fleet Corporation.

Continued on next left-hand page

300 H. P.
Total Weight
114,000 lb.
Tractive Power Starting
34,200 lb.

"The ALCO Diesel Locomotive Is More Than Just Another Oil-Electric"

Figures are now available showing the cost of operation for one year of the first 300 H.P. Diesel Locomotive equipped with the new Alco type solid-injection Diesel engine.

This first year of operation covered 6,258 hours, or an average of 20 hours each day, 6 days each week.

Fuel Oil	$1,064.46
Lubricating Oil	220.00
Miscellaneous Supplies	432.00
Maintenance	1,528.00
Total	$3,244.46

The maintenance shown is for running repairs only—classified repairs must be provided for every three to six years, depending upon operating conditions.

Also, wages of engineman and train crew are omitted. However, the operation of this type of locomotive requires only one man.

Where the more intensive switching service prevails, the Diesel locomotive provides an opportunity for an exceedingly attractive investment.

American Locomotive Company

30 Church Street New York N.Y.

600 H. P.
Total Weight
202,000 lb.
Tractive Power Starting
60,600 lb.

Financial

BALTIMORE & OHIO.—*Acquisition of Short Lines.*—The Interstate Commerce Commission has found that public convenience and necessity do not require this company to acquire or operate the Kansas & Sidell, the Casey & Kansas and the Yale Short Line, consideration of which the I. C. C. required to be given as a condition to the acquisition of control by the B. & O. of the Alton.

ILLINOIS TERMINAL.—*Abandonment.*—The Interstate Commerce Commission has authorized this company and the St. Louis Electric Terminal to abandon approximately ½ mile of line in Ninth street, St. Louis, Mo., a substitute line having been completed and put into operation.

KANSAS CITY SOUTHERN.—*Lease of Subsidiary.*—The Interstate Commerce Commission has authorized this company to lease those properties of the Texarkana & Fort Smith not already so controlled.

KANSAS CITY SOUTHERN.—*Abandonment.*—The Interstate Commerce Commission has authorized this company to abandon ½ mile of line between the Kansas City Northwestern Bridge and the Union Pacific main line in Kansas City, Kan., together with a 0.7-mile connection between the Kansas & Missouri Railway & Terminal and the Kansas City Terminal in the same city.

MISSOURI PACIFIC.—*Bonds.*—The Interstate Commerce Commission has authorized the New Orleans, Texas & Mexico to pledge with the Railroad Credit Corporation, as collateral security for notes of the International-Great Northern, $822,300 of the latter company's adjustment mortgage, series A bonds.

ST. LOUIS-SAN FRANCISCO.—*Abandonment.*—The receivers have applied to the Interstate Commerce Commission for authority to abandon the operation of the Evadale branch, from Deckerville, Ark., to Evadale Junction, 18.1 miles.

SOUTHERN PACIFIC.—*Abandonment.*—This company has applied to the Interstate Commerce Commission for authority to abandon 55 miles of its Promontory branch, its old line around the north side of the Great Salt Lake which was used before the cutoff across the lake was built, from a point near Kelton, Utah, to a point near Lucin.

WABASH.—*Abandonment.*—The receivers of the Wabash and the Kansas City, Excelsior Springs & Northern have applied to the Interstate Commerce Commission for authority to abandon the latter's line from Excelsior Springs, Mo., to Excelsior Springs Junction, 8.72 miles.

Dividends Declared

Eastern Pennsylvania.—$1.50, semi-annually, payable January 17 to holders of record January 7.

Kansas City, St. Louis & Chicago.—6 Per Cent Preferred Guaranteed, 1½ per cent, quarterly, payable February 1 to holders of record January 20.

Louisiana & Missouri River.—Preferred, $3.50, semi-annually, payable February 1 to holders of record January 20.

Paterson & Hudson River.—1¾ per cent, semi-annually, payable January 1.

Peoria & Bureau Valley.—$3.50, semi-annually, payable February 10 to holders of record January 20.

United New Jersey R. R. & Canal Co.—50¢, quarterly, payable April 1 to holders of record March 20.

Average Prices of Stocks and of Bonds

	Jan. 17	Last week	Last year
Average price of 20 representative railway stocks..	25.05	26.70	35.40
Average price of 20 representative railway bonds..	58.03	58.94	70.94

Construction

BALTIMORE & OHIO (Staten Island Rapid Transit).—A contract amounting to $300,000 has been awarded by this road to the Bates & Rogers Construction Company, New York, for excavation, masonry, grading, paving, etc., required in connection with elimination of grade crossings on the line of the Staten Island Rapid Transit between Grasmere and Dongan Hills, Staten Island, N. Y.

CHICAGO, WEST PULLMAN & SOUTHERN.—A contract has been awarded to the T. S. Leake Construction Company, Chicago, for the reconstruction of this company's office building at 104th street and Torrence avenue, Chicago, which was recently partially destroyed by fire.

ERIE.—A low bid submitted by the Depew Construction Company, Inc., Depew, N. Y., for the elimination of the Pingleton, Middle and Winship grade crossings of the Erie in New Albion, N. Y., has been approved by the New York Public Service Commission. The commission has also approved specifications and cost estimates for elimination of the Erie's Oak Hill Avenue crossing in Endicott, N. Y.

MISSOURI PUBLIC SERVICE COMMISSION.—An order has been issued by the Missouri Public Service Commission authorizing the widening of the Grand Boulevard viaduct at St. Louis, Mo., over the tracks of the Wabash, the Missouri Pacific and the St. Louis Terminal Railroad Association. It is planned to construct a 40-ft. reinforced concrete viaduct alongside the present Grand Boulevard bridge, so as to provide two 36-ft. roadways and a 12-ft. sidewalk on the west side. The project has a total estimated cost of $450,000, which will be apportioned between the city and the railroads in a manner not yet determined.

OREGON ELECTRIC.—The Interstate Commerce Commission has denied this company's application for authority to construct an extension of its line from Forest Grove, Ore., to the plant of the Stimson Lumber Company, 7.5 miles.

Railway Officers

EXECUTIVE

A. W. Munster, who has been appointed vice-president in charge of purchases and stores of both the Boston & Maine and the Main Central, was born at Waltham, Mass., on July 24, 1882, and received his education at Massachusetts Institute of Technology, Boston, Mass., where he received an S. B. degree. He entered railroad service in 1904 as apprentice and machinist with the Northern Pacific, in which capacity he served until 1909. From 1909 to 1910, he

A. W. Munster

was connected with the New York, New Haven & Hartford as material inspector. In 1911 he was appointed engineer of tests of that road, entering the service of the Boston & Main as storekeeper in 1912. In 1917 he was appointed purchasing agent, the position he held until his recent promotion. From 1918 to 1920 Mr. Munster was a member of the Eastern regional purchasing board, United States Railroad Administration. From 1924 to 1925 he served as chairman, Division VI, A. R. A., and as president of the New England Railroad Club.

FINANCIAL, LEGAL AND ACCOUNTING

Charles A. Magaw, general attorney of the Union Pacific Railroad for Nebraska and Iowa, who has been promoted to general solicitor, with headquarters as before at Omaha, Neb., has served in various capacities in the legal department of the Union Pacific for the last 22 years. He was born on August 15, 1872, at Fairhaven, Ohio, and was educated at Washburn College, Topeka, Kan., and at the University of Kansas at Lawrence, graduating with a law degree from the latter university in 1897. He began the practice of law in the same year at Topeka, Kan., where he later became a member of the firm of Ferry, Doran & Magaw. Mr. Magaw entered

Continued on next left-hand page

RE-BUILD WITH TONCAN IRON AND CUT DOWN FUTURE MAINTENANCE

Equipment not only wears out but it also rusts out. » The rusting goes on whether the equipment is in productive service or is in storage. This daily toll of rust and corrosion inevitably forces equipment into the shop. » Today long lines of freight cars await repairs. Now is the time to re-build with rust and corrosion-resisting materials that will increase service life. » Considered on a cost-per-year basis Toncan Iron is the most economical car repair material. This alloy of refined iron, copper and molybdenum has superior corrosion-resistance that increases the period between shoppings and decreases maintenance costs.

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the service of the Union Pacific at Topeka on April 15, 1911, as assistant attorney and was appointed assistant general attorney on August 1, 1913. Four years later he was transferred to Omaha, where he was ad-

Charles A. Magaw

vanced to general attorney on August 1, 1918, which position he was holding at the time of his appointment as general solicitor on January 1.

William F. Bull, who has been appointed secretary of the Southern Pacific, with headquarters at New York, to succeed **Hugh Neill,** deceased, was born on February 10, 1874, at Newark, N. J., and received his education in the public schools at Baltimore, Md. Upon leaving the Baltimore City College in 1890, he entered the service of the Baltimore & Ohio as clerk in the relief department. On March 1, 1900, he entered the service of the Southern Pacific at its system headquarters at San Francisco, Cal. After a brief service in the manager's office of that company, he was transferred to the office of the vice-president and general manager as statistician. In addition, Mr. Bull acted as secretary of the pension department of that company from its inauguration on January 1, 1903, to April 1, 1904, when he was transferred to the office of the director of maintenance and operation at

William F. Bull

Chicago, as chief clerk in that office at Chicago and at New York. On September 11, 1913, he was appointed assistant secretary, which position he held until his recent promotion.

OPERATING

E. B. Mitchell, superintendent of the Northern division of the Colorado & Southern, with headquarters at Denver, Colo., has had his jurisdiction extended to include the South Park division, and **E. F. Lott,** superintendent of the latter division, with headquarters also at Denver, has been assigned to other duties.

Thomas Collins, superintendent of the Montreal terminals of the Canadian Pacific, who retired on January 1, as reported in *Railway Age* of January 7, page 31, was born at Toronto, Ont., and received his education at St. Helen's School, Toronto, and Guelph (Ont.) Business College. He entered the service of the C. P. R. in September, 1885, as brakeman. In March, 1887, he was appointed conductor, and in August, 1906, he became trainmaster. From June, 1909, to June, 1912, he served as assistant superintendent. Since June, 1912, he has served successively as superintendent Lake Superior division at Chapleau, Ont., and terminal superintendent, Quebec district, at Montreal, Que.

F. R. Mullen, general superintendent of the Chicago, Burlington & Quincy, Lines West of the Missouri river, with headquarters at Lincoln, Neb., has assumed the duties of superintendent of the Lincoln-Omaha division and the Wymore division, with the same title and headquarters, and the superintendents of the remaining divisions of the Lines West, which include the McCook, Alliance-Sterling, and Casper-Sheridan divisions, have been placed under the direct supervision of the general manager at Omaha. **W. F. Giles,** superintendent of the Wymore division, with headquarters at Wymore, Neb., has been transferred to the Alliance-Sterling division, with headquarters at Alliance, Neb., succeeding **H. C. Murphy,** who has been appointed assistant superintendent of the McCook division at Denver, Colo., where he replaces **A. C. McDonald,** who has been transferred. **S. L. Fee,** superintendent of the Lincoln-Omaha division, with headquarters at Lincoln, Neb., has been appointed to the newly-created position of assistant superintendent of the Wymore division, with headquarters at Wymore.

MECHANICAL

Francis G. Lister, assistant superintendent of motive power of the St. Louis-San Francisco, has been advanced to superintendent of motive power, with headquarters as before at Springfield, Mo., to succeed **J. W. Surles,** who has resigned.

PURCHASES AND STORES

H. M. Rainie, assistant to the purchasing agent of the Boston & Maine, has been appointed purchasing agent, succeeding **A. W. Munster,** who has been promoted to vice-president in charge of purchases and stores of the Boston & Maine and the Maine Central.

OBITUARY

Frederic R. Perry, general agent in New York for the Canadian Pacific, died suddenly of a heart attack in his office on January 16. He was 58 years old.

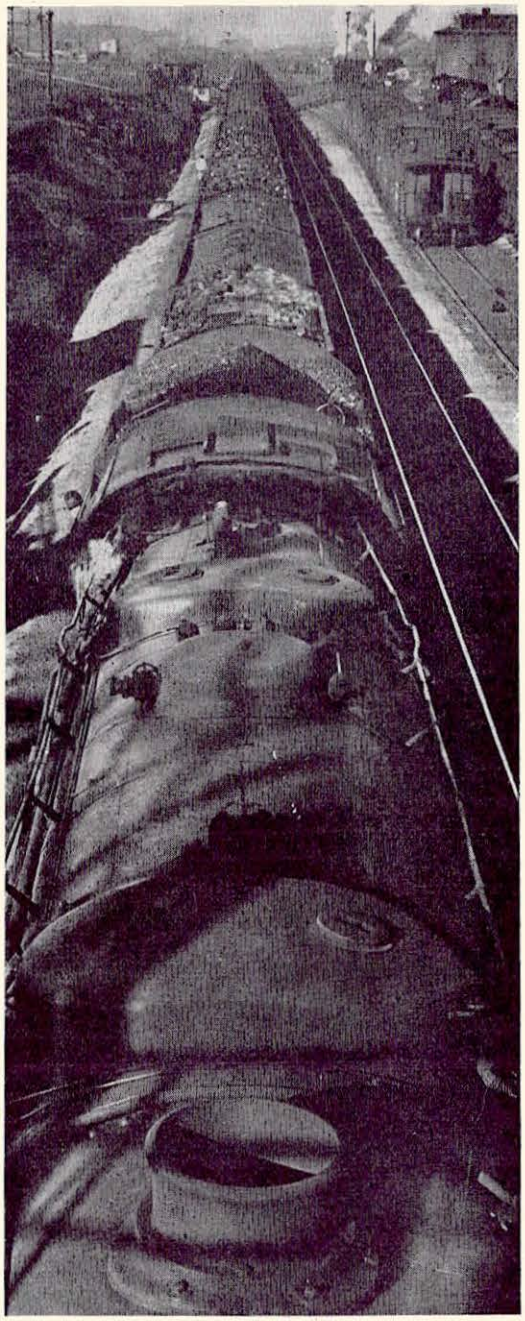
W. H. V. Rosing, formerly mechanical engineer of the Missouri Pacific and later assistant to the president of the St. Louis-San Francisco, who retired as special engineer for the latter road in 1917, died at St. Louis, Mo., on January 11, at the age of 73 years.

P. J. McCarthy, general freight agent for the Missouri Pacific at St. Louis, Mo., died on January 11, in a hotel at St. Joseph, Mo. Mr. McCarthy, who was 60 years of age, had been connected with the traffic department of the Missouri Pacific for 40 years. He started as a clerk in a local freight office at St. Louis in 1892, and held various clerical positions until May, 1915, when he was transferred to Chicago as assistant general freight agent. In 1917 he was transferred back to St. Louis, where he remained until March, 1929, when he was promoted to general freight agent, which position he held until his death.

Ray N. Van Doren, vice-president and general counsel of the Chicago & North Western and the Chicago, St. Paul, Minneapolis & Omaha, with headquarters at Chicago, died on January 12 at his home at Evanston, Ill., a suburb of Chicago,

Ray N. Van Doren

after an illness of several weeks. Mr. Van Doren had been connected with the legal department of the North Western continuously for 22 years. He was born at Oshkosh, Wis., on January 11, 1878, and received his legal education in the college of law of the University of Wisconsin, from which he graduated in 1898. From that date until 1911, Mr. Van Doren engaged in private law practice and in the latter year he entered the service of the North Western as a local attorney at Merrill, Wis. On January 1, 1917, he was appointed Wisconsin attorney, with headquarters at Milwaukee, and served in this position until July 1, 1921, with the exception of two short periods when he served as Nebraska attorney at Omaha and as general attorney of the Chicago, St. Paul, Minneapolis & Omaha, at St. Paul, Minn. On that date Mr. Van Doren was advanced to assistant general solicitor of the North Western, with headquarters at Chicago, being promoted to general solicitor in December, 1923. He was elected vice-president and general counsel of the North Western and the Omaha on July 1, 1925, which position he held until his death. Mr. Van Doren was elected a member of the board of directors of the North Western in 1925 and of the Omaha in 1930.



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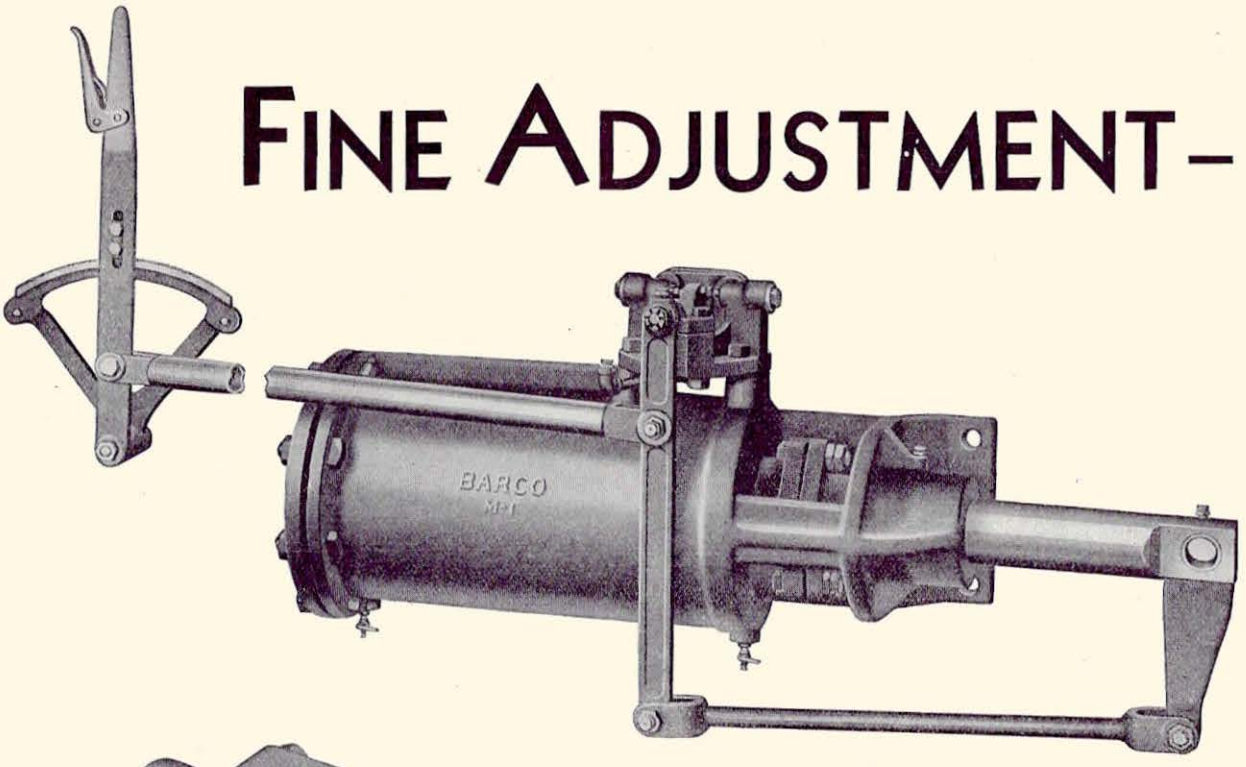

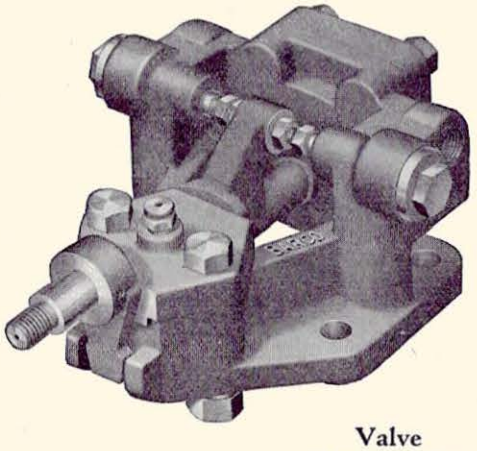

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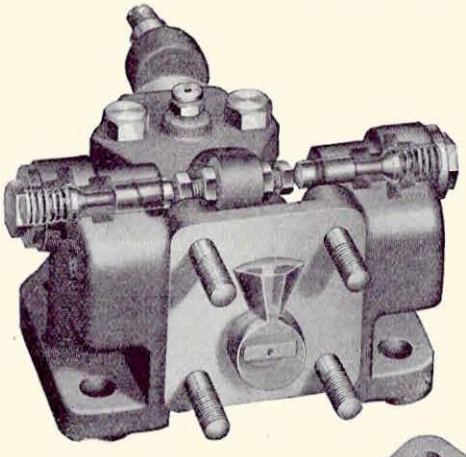
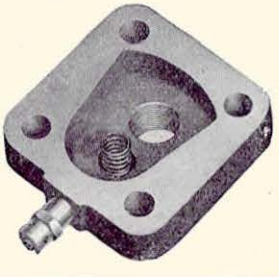
Exterior View



Valve
Interior View



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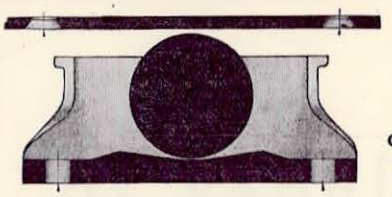
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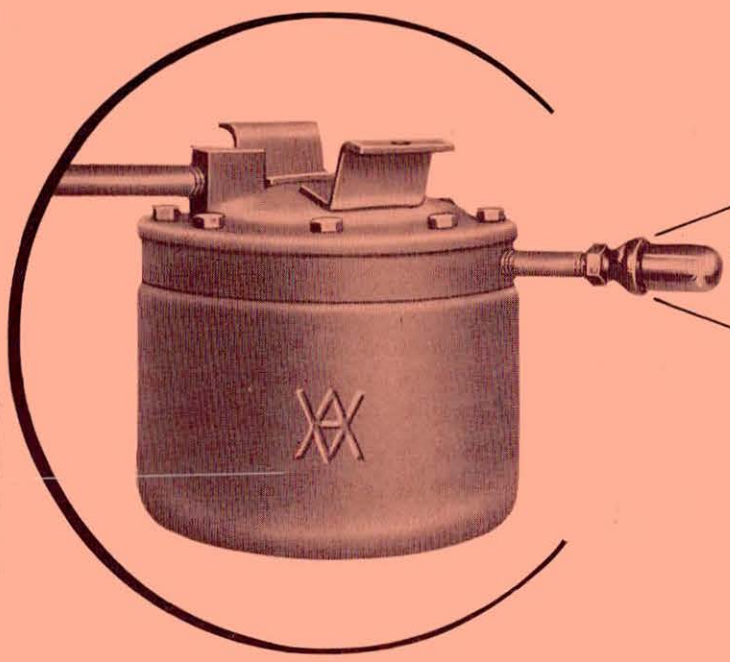

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The Alton installed an automatic interlocking last summer to replace a mechanical plant at a crossing, at a cost of $8,000, which will save $6,000 a year.

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These expenditures illustrate a type of improvement which some railways are continuing to make in these days and which are yielding returns of as high as 50 to 100 per cent on the investment. Such savings are independent of the number of trains and the returns will continue year after year.

*Railway Age Editorial, December 17, 1932.

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